THE MEDICAL TIMES.

SATURDAY, APRIL 1, 1871.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON A CASE OF CARCINOMA OF THE STOMACH.

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THE case upon which I shall lecture this morning has been under my care for a little more than a month. Although it has been during this period the subject of repeated and careful examination and of close study on my part, I find myself still hesitating in regard to the exact diagnosis. Notwithstanding this, I bring it before you to-day, in the hope that, by frankly showing you the difficulties that I have encountered, I may impress upon you the necessity of a thorough investigation into the history and symptoms of similar cases, should they ever chance to come under your care.

Without further preface, I shall proceed to read the notes of the case, which have been very carefully drawn up by my clinical assistant, Dr. George S. Gerhard.

Mary Brady, æt. 20, Irish, domestic, admitted November 8, 1870. No hereditary tendencies to any particular form of disease. One brother died of paralysis.

Her present illness began about six months before her admission into the hospital. She complained first of amenorrhœa and of digestive troubles, which do not seem to have differed materially from those of ordinary dyspepsia. One day, while washing clothes and leaning over a tub, she was suddenly seized with what she calls a "hard pain" in the lower part of the chest. This was relieved to a certain extent by moderate and distributed pressure, which she obtained by lying upon her abdomen. After the occurrence of this pain the dyspeptic symptoms became more distressing. She lost her appetite, vomiting frequently occurred after the taking of food, and she began to lose flesh and strength. She, however, continued at her work until the early part of the summer, when she went to the country, where she had some merely nominal work to do. About this time the matters vomited assumed a different character; they became dark and frothy or yeasty in appearance. This character they maintained for a long time. Milk and highly-seasoned and tender meats were the only kinds of food that she could retain upon her stomach. Vegetables invariably caused vomiting. She vomited blood on one occasion, only about one month before her admission into the hospital. It was in small quantity. Her bowels have always been constipated. While in the country her condition did not improve. She returned to the city in the fall, and again attempted to do the work of a domestic.

When admitted, she was pale and thin; had frequent vomiting; her bowels were constipated; her menses had never reappeared. Upon physical examination, the stomach was found to be dilated. No tumor could be felt in the region of the stomach. There was some soreness upon pressure, but no localized tenderness. No evidences of disease of the lungs or heart or of the nervous system. Tongue pale and slightly coated. Pulse frequent and very feeble.

December 15.—The vomiting continues, and so do all the symptoms above noted. She has had several syncopal attacks since yesterday morning.

December 16.—The matter vomited last evening was carefully examined this morning. Ejecta dark and frothy in appearance,—about eight fluidounces in amount. Microscopical examination revealed sarcinæ ventriculi, torulæ, starch-granules, partially-digested muscular fibre, and bodies resembling casts of the gastric tubules. Temp., 97.5°. No more syncopal attacks, those on the 14th having evidently been due to excessive exertion. A splashing sound heard upon succussion of the stomach.

Menstrual derangement, you have perceived, occurred early in the history of the case. This was followed in a short time by symptoms indicating disease of the stomach; but even up to the date of her admission into the hospital the former was the more prominent, at least in her own mind, for she did not at once or very readily call my attention to the latter. At the present time there is no doubt that the stomach is the organ principally diseased, but it is impossible to say with confidence in what that disease consists. It will occur to many of you, as it has already done to myself, that the case is one of cancer of the pylorus; but, while many of the symptoms indicate that such is the disease, there is wanting at least one of its usual signs: I refer to a tumor in the epigastric region. This has been diligently sought for by me at almost every visit; and others who, at my request, have examined the abdomen, have also failed to detect any indurated mass. I know, of course, that cancer of the stomach may exist in cases in which it is impossible at any time to detect a tumor, and that, on the other hand, a tumor may exist in the region ordinarily occupied by the stomach, which neither involves the stomach nor is of cancerous character; but in a case such as this, in which most of the rational symptoms point to malignant and obstructive disease of the pylorus, the discovery of a tumor would dispel all uncertainty as to the diagnosis. The detection of tumors in the abdominal cavity is frequently a matter of very great difficulty; and, no matter how expert in physical diagnosis the physician may be, they may, even when suspected and sought for, elude his search. I would not wish, therefore, to be understood as saying positively because I have found no tumor that therefore none exists. The recti muscles are very tense, and pressure over the stomach, if forcible, gives so much pain that I have not felt justified in carrying my examination beyond a certain point.

In reviewing some of the other symptoms presented by this case, we shall find that they differ from those usually met with in cancer. For example, hæmatemesis, or, more properly, the vomiting of altered blood, is a common occurrence in this disease. Now, although we have here a history of vomiting extending over a period of very nearly six months, blood has been thrown up but once, and then only in small quantity. The vomiting has been, as I have just said, a persistent feature in the case; the vomited matters are generally abundant, yeasty in appearance, and have the microscopical characters described in the notes. But on questioning the patient in regard to the time at which vomiting has taken place, she has told us, not that it was most frequent three hours after the taking of food,—or, in other words, at the time when the stomach is, in health, ready to allow its contents to pass into the duodenum,—but almost always at nine in the evening, or early in the morning, or at a time when the patient had either just gone to bed, or just got up,—or, in other words, at times when there was a change of position. Now, vomiting at these hours is not unfrequent in cases of dilatation of the stomach complicated with catarrh, and the ejections in the latter case frequently bear a close resemblance to those which have been observed in this case. We know, moreover, that the stomach is dilated here, for we have not only been able to elicit a distinct splashing sound by percussion of the stomach, but, by carefully-performed auscultatory percussion in the manner recommended in Dr. Fenwick's work on "Diseases of the Stomach," I have demonstrated in the wards that the stomach occupies an undue share of the abdominal

cavity. Dilatation of the stomach, when accompanied by constant vomiting, will give rise, frequently, to great emaciation; but the emaciation, although progressive, is only so up to a certain point, and rarely attains the degree present in the case before us. The inanition in dilatation is not to be attributed entirely to the vomiting, but partly to a failure of the organ to contract upon its contents and to force them into the small intestines. A passive dilatation, when not dependent upon obstructive disease of the pylorus, is generally preceded by long-continued gastritis, of which we have no history here.

Pain has been at times very severe, but it has not been by any means constant, for at many of my visits she has told me that she was entirely free from it, and even when present it has not always been of the character usually met with in cancer. It has rarely been lancinating, but has usually been described as a feeling of soreness or of burning. She has, it is true, had paroxysmal attacks of severe pain, but these have not been very frequent. There is also tenderness over the whole of the stomach, which is so marked when deep pressure is made that it has seriously interfered with my examination of the case.

Another point, to which I have not yet called your attention, is the low temperature which has been observed in this case. You are probably aware that in the greater number of thermometric observations made in cases of cancer a low temperature has been noted; in fact, it may be almost asserted that the temperature of the body in cancer is low, as a rule, and that the elevations which are sometimes noticed in cases of this disease are due to intercurrent inflammation. The fact that the temperature is generally low in cancer was, I believe, first noticed by my colleague, Dr. J. M. Da Costa, in a communication made some years ago to the Pathological Society of this city. The temperature in this case is not more than half a degree lower than normal,—a decrease too slight to rest a diagnosis upon.

A round ulcer of the stomach may suggest itself to some of you as the possible cause of her illness; and certainly her youth and previous occupation would seem to point to this as being the disease; but a careful examination and consideration of all her symptoms will, I think, be found not to sustain this diagnosis. Thus, there is not present in the case, nor has there ever been, localized tenderness. There is no pain at any point of the spinal column; and although pain in the epigastric region has been a symptom of the case, it has rarely been acute, is not found to be more intense in certain positions of the patient than in others, and is not aggravated by the ingestion of food or of hot drinks. Moreover, blood has been vomited but once, and none has been passed by the bowels. Now, although ulcer may run its course without hemorrhage, it is rare, especially in a case which has lasted so long as the present, and in which there has been complete amenorrhœa for the last six months.

Still another condition is possible here. The pylorus may be obstructed, not by a tumor in its walls, but by one external to them. Sometimes, it is said, obstruction of the pylorus is produced by pressure of enlarged glands, which, being deeply placed in the abdominal cavity, escape detection. There is, however, in this case no enlargement of the external glands, except in the groin, and there it is not marked. I can find, moreover, no positive sign of phthisis pulmonalis: occasionally there has appeared to be slight relative dulness in the infra-clavicular region of the right side, but, as auscultation or palpation gives no sign of disease of the lungs, it is undoubtedly of no significance. Constant vomiting sometimes takes place in cases in which the coats of the stomach have undergone the albuminoid degeneration. I merely mention this. I have not at any time thought that this would be the proper interpretation of the case before you. A single organ is very rarely alone involved in this degeneration, and the alterations in other organs, when they occur, give rise to almost unmistakable symptoms. For instance, the albuminoid degeneration of the coats of the intestines gives rise to diarrhœa, while our patient is suffering from constipation. A similar alteration of the kidneys gives rise to albuminuria, which is not present in the case before you. Moreover, enlargement of the liver and spleen is an early sign of the general condition.

You will see from this hurried review of the symptoms that, although they indicate positively disease of the stomach, the nature of the disease is not so distinctly defined by them. My own diagnosis halts, so to speak, between cancer and simple dilatation. I have already given you the reasons which deter me from announcing positively that cancer exists. Of the dilatation I am certain, for auscultatory percussion furnishes us an almost certain means of detecting this; but whether it is the consequence of long-continued inflammation, or of obstructive disease, I confess my inability to decide.

In regard to the prognosis, I can only say that it is doubtful. In any case it is serious; if the disease is cancer, it is fatal. The vomiting has appeared to us to be a little less frequent during the last two weeks, and the emaciation has not progressed during that time.

There can be but little difference of opinion as to the proper treatment to be pursued in this case. The two prominent indications are, no matter what the exact lesion may be, to check the vomiting and to sustain the patient's strength. It would occur to few of you, I take it for granted, that a treatment specially directed to the re-establishment of the menses is at all indicated. The amenorrhœa, although it is said to have preceded the gastric symptoms, is now, at all events, of secondary consideration. If the result should show that there is no malignant disease, and should great improvement occur, it will then be time enough to busy ourselves about the imperfect performance of the menstrual functions. The treatment, moreover, which will arrest the vomiting and sustain the strength may also promote the re-establishment of the menses. In fulfilling the first indication, much may be accomplished by the proper regulation of the diet. Of course all articles of food not easily digested are to be avoided; but, more than this, articles likely to undergo fermentation in the stomach are not to be allowed; this will, of course, exclude from this patient's dietary all substances containing starch. As there exists an impediment to the passage of food through the pylorus, food in small bulk and of ready digestibility by the stomach is to be given. Beef-essence possesses this property to a great extent, and so does milk. Of medicines, perhaps there is none better calculated to check the vomiting and to allay the irritability of the stomach than the dilute hydrocyanic acid of our Pharmacopœia, which should be given in small doses, frequently repeated as occasion for its use arises. This remedy will also be of service in relieving pain. A medicine which would arrest fermentation seems also to be indicated; and carbolic acid suggests itself as possessing these properties. It has, however, a very disagreeable taste, and is sometimes irritating to the stomach. I will therefore wait a few days before ordering it. Fermentation is set up partly as a result of the retention of the food in the stomach, and is therefore simply a consequence of the disease, and is of minor importance. The antacids have already been tried, and have failed to do any good.

The second indication will be met by many of the means by which we have attempted to fulfil the first, and especially by the proper regulation of the diet. Her condition, however, indicates great debility; in fact, she

has recently fainted in consequence of over-exertion, and it was with some difficulty that she was resuscitated. I have therefore directed that she should remain in bed, not rising for any purpose. This, strange as it may seem, she is not very willing to do. Tonics are also to be given. I have been giving her the elixir of bark, which certainly has not provoked immediate vomiting, and seems to be tolerated by the stomach. Stimulants are also administered. She has at present occasional doses of sherry wine in carbonic-acid water. Should the stomach become less retentive than it is at present, or should the general condition indicate that nothing is taken up by that organ, I shall have recourse to nutritive enemata, either alone or in connection with the treatment which I have just recommended. It may also be necessary to resort to external stimulation.

In this connection it may be well to call attention to the importance of examining the ejecta by the microscope. Neither torulæ nor sarcinæ ventriculi are found exclusively in cancer of the stomach, but they are, perhaps, more frequently found in that condition than in any other. In the matter vomited by this patient I detected starch-granules. Now, I had excluded starchy food from her diet-list, and, having explained to her why I did so, I was rather surprised at the discovery. After denying that she had disobeyed my order, she confessed at last that she had eaten a little farina, which had been brought to a patient in a neighboring bed. The large amount of mucus present also enabled me to recognize the existence of gastric catarrh.

I do not know that I can add anything to what I have said in regard to this case. I shall let you know the result, whatever it may be, at some future lecture. I fear that the case may be one of cancer of the pylorus; but, since no tumor can be discovered, I hope that it may prove to be one of simple dilatation.

[The progress of the case to its fatal termination was described in a subsequent lecture, as follows:]

The morbid specimens which the class sees upon the table were removed from the body of the young girl Mary Brady, whose case formed the subject of a clinical lecture about three weeks ago. The progress of the disease has, consequently, been very rapid since you saw her. A very few days after the lecture I discovered a tumor in the median line of the abdomen, about midway between the ensiform cartilage and the umbilicus, and have had, consequently, no doubt lately as to the nature of her disease; but it has proved fatal in a shorter time than I thought. I will read the notes of the case, as you will derive from them a full knowledge of its progress.

December 17.—Vomited last evening about one pint of the same kind of matter. Had a comfortable night. Bowels moved last night. Epigastric tenderness continues. Ordered acid. hydrocyan., dil., gtt. jj four times daily.

December 18.—Vomited again last evening; this morning more comfortable. Carbolic acid in small doses was ordered, in the hope that it would prevent the fermentation of the contents of the stomach.

December 19.—Has vomited repeatedly since last note. Up to the present time the vomiting has taken place some hours after the ingestion of food, and generally either late in the evening or very early in the morning. Now, however, food is thrown up almost immediately after being taken, and, as the emaciation is progressing, and is now excessively marked, it was to-day determined to attempt to nourish her by means of nutritious enemata; and, with this view, ℥iv of beef-tea is injected every six hours. Nitrate of silver gr. ⅓, t. d., was ordered in addition to the hydrocyanic and carbolic acids. Temperature continues low,—97.75°.

To-day for the first time there are to be felt, on palpation, distinctly nodulated bodies, resembling large glands, in the right hypochondrium. In the epigastrium there is also for the first time a hard mass to be felt, but its size and character cannot be clearly made out.

December 23.—Vomiting continues, although she is now restricted to milk by the mouth. Temperature continues low. Emaciation is extreme. The epigastric tumor is now very distinctly felt; it is about the size, apparently, of a duck's egg, and is very hard. It is so evident to-day that it is difficult to explain how it could have escaped detection after the very careful exploration of the abdomen which was made at almost every visit. The recti muscles have been exceedingly tense since the existence of a cancerous tumor was suspected, and it is probably owing to this fact that it has not been felt. It occupies a position a little to the right of the median line of the abdomen, midway between the ensiform cartilage and the umbilicus. The face of the patient is pale. Her eyes are sunken, and the malar bones stand out very prominently. Purpuric patches are seen on the skin of the chest and legs. She is evidently sinking. The nutritious enemata are said to be retained.

December 25.—The vomiting has become even more constant and distressing. She has vomited six times since eight o'clock last evening. Temp., 97.75° F.

December 27.—The patient appears to be sinking gradually. Her appearance and condition have changed very much in the last few days. She is very much emaciated; has a tendency to drowsiness. The temperature is still low. Last night it was 96°; this morning it is 95½. Pulse 100°.

December 28.—Is very weak this morning. She vomited several times during last night; the ejecta were for the first time of a dark chocolate color, which was undoubtedly due to the presence of altered blood. Can retain no kind of food. When quiet she does not seem to suffer, but when vomiting she has intense pain in the epigastrium, which is somewhat relieved by pressure and friction. The epigastric tumor is very distinctly felt and seen to-day.

December 29.—A dark-colored liquid, similar to that vomited yesterday, has been running from her mouth all night, and still continues to do so; it contains matter resembling coffee-grounds. Pulse very feeble and frequent.

December 30.—Death took place at 10 P.M. last night.

Post-mortem, twelve hours after death:

Body very much emaciated. Petechiæ upon the skin of the abdomen, chest, and legs. Rigor mortis not well marked.

Head not opened.

Abdomen.—Stomach more obliquely placed than normal; fat entirely absorbed from the two omenta; liver in its normal position. Stomach considerably dilated,—a scirrhous mass involving the pylorus; the walls of its middle and pyloric portion thickened. Some loose adhesions between the growth and the surrounding tissue had dragged the pylorus down. On cutting open the stomach, it was found to contain altered blood. Along its greater curvature the mucous membrane was found to be injected, especially near the pylorus. The mass did not involve the duodenum, but was firm and hard, and the peculiar cry was heard when a section was made. But little blood could be scraped from the faces of the section. Although the pyloric orifice was very much narrowed by the mass, it was not entirely occluded. The mesenteric glands were enlarged.

The liver was rather small; contained several small nodules, which were thought to be cancerous. Gall-bladder distended with a dark-colored liquid.

The kidneys were apparently healthy. The pancreas and spleen appeared to be free from disease.

Both ovaries were situated low in the pelvis, and were involved in the cancerous disease; the right was reniform, and was about two and three-fourths inches in length and one in breadth; the left ovary was much smaller. A section of the right ovary showed a dense whitish and firm tissue, with entire absence of proper tissue. The tissue cried under the knife, and was not vascular. The uterus was small and compressed by the enlarged ovaries, but was free from cancerous disease. The os uteri indicated that the woman had never borne children.

Thorax.—The lungs were studded here and there with white and black nodules,—the former probably cancerous, the latter produced by old hemorrhages. There was enlargement of the bronchial glands. The heart was small, but healthy. No disease of the blood-vessels.

Portions of the tumor of the stomach, of the ovaries, and of the nodules found in the liver and lungs, were submitted to Dr. J. G. Richardson, Microscopist to the Hospital, for microscopical examination, and the following is taken from his report:

"I find that the pyloric tumor seems to be composed of fibrous tissue, with numerous connective tissue corpuscles, but without any cells resembling those of cancer, either in appearance or in arrangement; that the ovary exhibits chiefly an excess of connective tissue and elastic fibres; that the whitish deposit in the liver is chiefly composed of cicatricial tissue, surrounded by pale and atrophied liver-cells; and that one of the solid masses in the lungs is obviously cretaceous deposit, while another is shown by the microscope to be a nodule of fibrous tissue,—doubtless a cicatrix."

It will be seen by the above report of the post-mortem appearances that the disease was more extensive than had been supposed during the life of the patient. The lungs were studded with nodules, which presented similar microscopical character to those seen in the pyloric tumor, and were undoubtedly secondary to it. They were too small to give rise to any dulness on percussion, and for the same reason auscultation furnished no sign of their presence. The two or three small nodules in the liver of course created no disturbance of the function of that organ. The enlargement of the ovaries escaped detection probably from their being very deeply seated in the pelvis, for had they been in their usual position I could not have failed to feel them at some one of the repeated examinations of the abdomen.

A vaginal examination would undoubtedly have led to the detection of the disease of the ovaries, and I now, of course, regret that it was never made, although, in reviewing the case, I do not think it was ever indicated, and it would have been strenuously opposed by the patient herself.

ORIGINAL COMMUNICATIONS.

VACCINATION.

BY JOHN BELL, M.D.

THE present age has received various designations. It is certainly one of societies, for all subjects and for every conceivable purpose; in the main praiseworthy, by their contributing, or, at the least, endeavoring to contribute, to human progress, to promote human happiness, and to abate human misery. Often they are formed after mature reflection, and with a full knowledge of the objects to be attained by them. Sometimes they are the results of impulse, to redress imaginary grievances; sometimes to forward personal and selfish interests, on the alleged ground of philanthropy and public utility.

Under which of these categories shall we place the Anti-Vaccination League, recently formed in England? A certain number of persons have been associated together to protest against vaccination as a nuisance to be abated and a practice, despite long experience and government enactments in its favor, to be resisted. There are not wanting self-made martyrs to their creed —if a creed can consist in negatives—for a breach of the laws enforcing vaccination. These persons may be sincere in their absurdities; but sincerity is not always allied to wisdom and knowledge. A man is very sincere when he commits suicide, and another when he attempts to clear a five-barred gate or a ditch in the hunt, incurring the penalty, in case of failure, of breaking his neck or fracturing his skull. The Anti-Vaccination League ought to connect itself with another association, made up of self-constituted savants, who dissent entirely from the received opinion of astronomers and geographers that the earth is a sphere and revolves around the sun. On the contrary, we are assured by these revolutionists of science that our planet is nothing but a stationary plane, with some undulations of surface, over which the sun and moon and stars revolve; in fine, that we must abandon as mental crudities the system accredited and explained by Galileo, Copernicus, and Newton, and fall back on that taught by Ptolemy and the Greek philosophers. We might dismiss all these parties affected with *folie raisonnante* to the enjoyment of "Fools' Paradise;" but, unfortunately, the Anti-Vaccination League finds medical advocates, and it is not long since a volume was issued with a show of literature in its favor. Some excuse may be found for these heresies in the failure of too many practitioners of medicine to acquaint themselves with the history of vaccination, and to take all needful precautions to insure a successful result of the operation. On so important a subject there ought not to be any misconception, either in the minds of the profession at large, or of the public generally. Better to repeat truisms than that any person should remain in ignorance.

Seventy-two years have passed away since Edward Jenner, after a series of carefully-made observations and experiments, extending over a long period, announced publicly his discovery of the protection afforded against smallpox by the introduction of the lymph or matter of cow-pox into the human body, and that the protection was equally good when the matter was transmitted from person to person by puncture or scarification of the skin. This discovery, notwithstanding opposition from the learned, the religious, and the witty, gradually spread to all civilized countries, and has been almost universally recognized as the greatest boon conferred on mankind by the healing art, or, we should say, more appropriately, through it by an ever-beneficent Providence. The great truth once established, overweening confidence in vaccination as a prophylaxis of smallpox took the place of doubt and incredulity, and the conditions for a successful issue of the operation, laid down by Jenner himself, were neglected, and failures, easily explained in the individual cases, came to be viewed by some superficial inquirers as objections to the practice in general. It has been alleged, first, that the protecting power of vaccination is lost after a time, and that vaccinated persons not unfrequently catch the infection of smallpox, and some of them die in consequence; secondly, that vaccination gives rise to different diseases, especially those of the skin.

In reply to the first allegation, it should always be remembered that from the very beginning vaccination was not assumed to confer a charmed life against an attack of smallpox. Jenner and his immediate cotemporaries, Pearson and others, pointed out the fact of the supervention of variola after vaccina; which was attributed by some of them to the recency of the operation, so that there was not time for the system to be brought fully under its influence. At a later period, an opposite opinion was held,—viz., the greater liability to smallpox in those who have been vaccinated for a number of years. We have seen cases of supervening smallpox—varioloid—of great violence in children who had been well vaccinated; and we have also seen large numbers of adults, moving in the midst of variolous contagion, entirely exempt from its morbid influence; and others, also adults, who had been vaccinated in early life, but had very slight attacks of varioloid, although living night and day in a poisoned atmosphere of the most malignant smallpox. The chief causes of the variolous seizure of vaccinated persons must be traced to the use of spurious vaccine matter, and to those on whom the operation was performed being at the time affected with cutaneous disease, especially psoriasis or herpes.

Jenner, while pointing out these causes of failure, laid the most stress upon the last one, the importance of which is, we fear, much neglected in the practice of vaccination. "The greatest of all impediments to correct vaccination," wrote the great discoverer, "is that which arises from an herpetic state of the skin." The accusation brought against vaccination, that it often gives rise to troublesome cutaneous eruptions, should be presented in a different form, and made to say that these eruptions often follow vaccination; they are a sequence, but not an effect. Children are peculiarly liable to and troubled with a variety of cutaneous eruptions besides the exanthematæ. Mindful of the Jennerian injunction, we have, in one case, waited two years before vaccinating a child, on account of its being afflicted all that time with psoriasis.

After the great epidemic of smallpox which prevailed in Philadelphia in 1823–4, there were some physicians who, looking at the number of cases of varioloid in those who had been vaccinated, felt disposed to fall back on inoculation with variolous in place of vaccine virus, as affording a surer protection against the invasion of smallpox. But the fallacy of this opinion was shown by what transpired at this very time. We read in the history of the epidemic of 1823–4 (*N. Amer. Med. and Surg. Journ.*, vol. ii.) that the writer of this article and Dr. John K. Mitchell had under their care sixteen cases of secondary smallpox, of which seven were of persons who had had the disease naturally in early life, and nine of persons who had been inoculated for it in previous years. Of the seven attacked for the second time, three died, making a mortality of 42.85 per cent.; and of the nine who had been subjected to variolous inoculation, three died, the mortality being 33.33 per cent. The deaths in the unprotected, who numbered 155, were 85, or 54.8 per cent. A record of 64 cases of varioloid in those previously vaccinated shows that there was but one death,—that of a woman who had caught cold after recent delivery in the Almshouse. This would make but 1.57 per cent. mortality. Taking, in addition, the higher figure of 5.7 per cent. of 140 cases of varioloid in the Philadelphia Smallpox Hospital, under the charge of Dr. Bell, in the epidemic of 1860–1, and that of 7.69 per cent. in 247 cases of varioloid at the Hôtel-Dieu, in the recent epidemic in Paris, and the exemptions to be mentioned in the next sentence, we have an average mortality in those who took smallpox after vaccination of only 3.94 per cent. In the Royal Military Asylum, out of 39 boys attacked with varioloid, 12 exhibited marks of smallpox, and 27 those of vaccination. Of the only four deaths that occurred, all were from secondary smallpox, making a mortality of 33.33 per cent., but not one having resulted among the previously vaccinated. What a contrast is here presented in the protective power of vaccination with that so imperfectly furnished by previous smallpox, natural or inoculated! the first allowing only a mortality of less than 4 per cent., the second yielding a death-rate of 38 per cent.,—a figure approaching, if not equal to, that given by primary smallpox among the unprotected. Of the relative susceptibility of the vaccinated and of those who have had smallpox in former years to be affected on exposure to the poison of the latter, there is a difference of opinion. M. Serres stated some years ago that he had seen between 1700 and 1800 cases of smallpox in private and hospital practice, and that he was certain that the number of those affected with varioloid (smallpox) after vaccination was not greater than it was of those who had had secondary smallpox. Whatever may be the difference of belief on this point, one thing is certain,—viz., that, of the two above-mentioned classes, the probabilities of recovery without disfiguration are very great in the first, or the vaccinated, while in the second, or variolated, the percentage of deaths is always large and cases of disfiguration are numerous.

It is very desirable, however, that vaccination should give not only relative, but absolute, protection against smallpox, leaving out of view the small number of those who are not susceptible of being affected at all by the introduction of vaccine any more than they are by that of variolous matter. Persons of this constitution are met with in every community. The protection, exhausted by an indefinite length of time, is now renewed by revaccination, to be performed with the same care and consideration as the first vaccination. There is no agreement among writers and practitioners as to the interval that may be allowed to elapse between the first and second operations. The following conditions will help to guide us in having recourse to revaccination: when the history of the primary vaccination is incomplete in the individual case brought before us, and especially when the characteristic scar is wanting; when epidemic small-pox is prevailing; and when the individual is about to leave home and encounter exposure to smallpox. This last condition is peculiarly binding on travellers, soldiers, and sailors. We must respect also the wishes of the timid, and revaccinate them at any time they may wish, after our having stated to them the reasonable grounds for safety from a previous vaccination.

With a view of renewing the protective properties of the vaccine lymph, under the supposition of its having been weakened by the successive transmission from person to person during a term of years, and its probable adulteration, in vaccinators not always procuring pure lymph from healthy subjects, recourse was had to retrovaccination, or going back to members of the bovine species, especially milch cows and heifers, for a fresh supply. This measure is strenuously advocated as one of absolute necessity; and it has been carried out to a considerable extent, first in England, and subsequently in the continental countries of Europe,—and, above all, in Italy. Insertion of the new lymph thus procured is followed by a more early and active display of the symptoms of vaccination, and at times it produces suppurative inflammation, vitiating the quality of the lymph, first in the vesicle, and then in the scab. The propriety of retrovaccination, with the intention of obtaining purer lymph, is denied by those who insist on this product retaining its active property, unaffected by its transmission from one human being to another, from the time of the use of Jenner's original lymph to the present day. After all, however, looking to the fact of the carelessness so common in not watching the progress of vaccina from the insertion of the lymph to the stage of maturation, and the forming of a good scab, and also to our not having in this country a national institution for the collecting and giving out of lymph-stocks, we cannot but recommend the practice of retrovaccination. Every city and town in the United States should imitate the measures for this purpose adopted by the municipal authorities of Naples, Florence, and Venice, in procuring healthy cows or heifers—the latter to be preferred—and vaccinating them with lymph from healthy children. The resulting lymph is then to be used for vaccinating human subjects,—healthy children, selected for the purpose,—who will thus be made to furnish a supply taken from the vaccine vesicle at a proper time and put into hermetically-sealed small glass tubes, which can be sent, together with proper ivory points, in all directions where applications are made.

Notwithstanding all the drawbacks to general vaccination from the ignorance and prejudices of those who are either opposed to or indifferent on the subject, and from vaccinators not being always careful to adopt preliminary measures to insure a successful result for

the operation, it has been shown that with the extension of the practice, and increased facilities for carrying it on, there has been a regularly diminishing proportion of deaths from smallpox in England and Wales. In an average of thirty years previous to the introduction of vaccination, the annual rate of deaths per million in those countries from smallpox was 3000. In successive periods since vaccination has been practised to 1863, the death-rate, as pointed out by Dr. Anstie (*Practitioner*), has been reduced to 171, the greatest reduction being in the last ten years,—1854-63,—when vaccination has been to a certain extent obligatory. It is now made so by acts of Parliament; and of its results we can judge by the following statement, in addition to that just made. In Scotland and Ireland, notwithstanding some defects in the vaccination acts for the two countries, smallpox has steadily diminished, and it is at present nearly extinct in both of them.

Dr. Anstie, in view of these facts, may well use the following language: "Upon no reasonable grounds can it be any longer denied that this compulsory extension of efficient vaccination to the whole population opens the sure road to the extinction of the smallpox." This writer gives a most decided negative to the question whether vaccine lymph degenerates by the mere fact of prolonged humanization, or its transmission from one human being to the other. The vaccine lymph procurable from the English National Institution is a continuation through an unbroken succession of human subjects. Its use on a recent occasion produced most decisive results. At five vaccination-stations in London, Liverpool, and Birmingham, 446 punctures were made with lancets armed with this lymph, and they gave rise to 443 typical and perfect vesicles, of such a character as has been always found to insure complete protection. There is one point of great practical moment, on which attention should be fixed, in order to give every child the fullest chance of being placed under vaccine influence. It is for us not to be discouraged by the failure of any result from the first operation, but to repeat it, at intervals which will vary from a few days to weeks, until the desired success is obtained. We have introduced into the arm of a child vaccine lymph at twelve different times before a regular vesicle was procured, although the scabs used were productive in other cases. It should be stated that the last and successful insertion was of fresh lymph, taken from a vesicle on the arm of another child. Even should all attempts fail in the periods of infancy and childhood, subsequent trials must be made, as with a change in the constitution of the young person there may come a susceptibility to be affected by the vaccine matter. A great step is made in the right direction by the city government appointing physicians to vaccinate all persons who apply to them, free of cost; but a further advance is necessary, which should compel parents to do their duty, and have their children vaccinated within a few months after birth. Until legal provision is made for a measure of this kind, certain precautions should be adopted, not only for the safety of the individual, but also of the community. No child should be admitted to a public school, no apprentice indentured or otherwise bound out to follow any art or trade, unless the party has been vaccinated. A careful sanitary review should be made of factories, hospitals and asylums of every kind, and prisons, to ascertain if there be any of the inmates not vaccinated, and, if so, to have them at once protected, by subjecting them to the requisite operation. Immigrants of every nationality should on their arrival be inspected, with a view of learning whether they have been duly vaccinated in their own country, or have had smallpox; and all those found to be unprotected ought to be subjected at once to vaccination by physicians whose duty it is, by the terms of their appointment, to give all applicants the benefit of their services.

It is enough for us simply to advert to the question of the number of punctures or incisions, whether one or more, for the insertion of vaccine lymph, and of a second puncture, two or three days after the first, the resulting vesicle of which is to overtake the first one, so that both shall maturate at the same time, and thus furnish proof of the lymph being genuine.

We would dwell more on the time for taking lymph from the vesicle,—from the fifth to the eighth day after vaccination,—and the care to be used not to rupture the vesicle, nor to renew the operations for abstracting the lymph too frequently, and thus bring on suppurative inflammation, were not the practice so general in this country of using the dried lymph in the scab and leaving the vesicle untouched.

The employment of scabs for the propagation of cow-pox was first recommended by Mr. Bryce, of Edinburgh, in 1802. It is a good mode of transmitting vaccine matter to distant countries. On such occasions, and for keeping the scabs any length of time after they have fallen off, the hard or horny part alone should be that preserved, and should be carefully detached from the loose connective tissue with which it is surrounded.

The natural history of the vaccine lymph is somewhat curious. Dr. Jenner thought that the original source was in the heel of the horse when this animal is affected with the disorder called "grease." Both experiment and analogy are opposed to this view. Another hypothesis of his, revived of late years, was "that, how different soever they might be in some particulars, the cow-pox and the smallpox were in reality identical." Mr. Ceely's experiments of inoculating the cow with variolous virus, and vaccine matter resulting, which produced true vaccina in the human subject, were accredited by Mr. Farr, in his letter to the Registrar-General of England, in which he says *varioline*, or the specific matter of smallpox, is converted into vaccine. A fresh supply of vaccine matter has been sometimes procured in this way in Egypt. The inquiry has not, we believe, been followed up of late years with practical results.

The fears excited by accounts of syphilitic eruptions being transmitted by corrupt vaccine lymph have not been borne out by facts. The concurrent testimony of the ablest dermatologists, sustained by careful and diversified experiments, is entirely adverse to such an opinion. The same may be said of any other infections which have been sometimes supposed to result from vaccination with spurious lymph.

THE OPHTHALMOSCOPE IN MEDICAL PRACTICE.

Read before the Philadelphia County Medical Society, Feb. 22, 1871.

BY A. D. HALL, M.D.,
Surgeon to Wills Ophthalmic Hospital.

A PHYSICIAN not familiar with the practice of a surgeon in one of our ophthalmic hospitals or dispensaries would be surprised to see how much of the work is connected with medicine rather than surgery; in other words, that quite a large proportion of cases engage the attention, not from the stand-point of the eye as an entity, but from the local evidences there presented of affections of the system at large. Certain conditions of optic nerve change have been laid down as occurring quite frequently in diseases of the nervous centres, and the writer's object will be gained if investigation is stimulated in this direction. The wards of a children's hospital might afford opportunities for the study of the changes of the optic nerve in tubercular

meningitis, or the condition of the same part in idiocy and insanity, in such a field as is furnished by our large hospitals for the insane.

Looking at the ophthalmoscope in the broadest view from the stand-point of the physician, it reveals the delicate reaction of the retina to many of the great systemic affections.

It is to be expected that oculists should be earnestly engaged upon the study of symptoms through this positive channel; but lately physicians abroad have given much thought and attention to the subject, and, for a comparatively new field, the list of writers and commentators is quite large. Galezowski, Bouchut, and Lancereaux in France, Ogle, Wordsworth, Hughlings Jackson, Hulke, and Hutchinson, of London, and Clifford Allbutt and Teale, of Leeds, have all endeavored to add to our knowledge upon the subject.

It is known to the ophthalmologist that there may be all the signs of an inflammation of the optic nerve, and yet vision may not be diminished in like proportion. Cases of this kind are unusual, and yet they do occur, and furnish us with precedents. The analogue of this is seen in medical cases, when either tubercle or simple meningitis runs its course and leaves no sign upon the optic disc.

Even should the symptoms of meningitis or other nervous central affections not always indicate themselves in changes of the optic nerve and retina, still the fact that they do so in a certain number of cases is enough to incite to further research and observation. The ground has not been more than broken upon this subject, and there remains much to unravel and classify. I can remember when the ophthalmoscope was first introduced into this city there were found those who thought it a useless and futile toy, more for amusement than an instrument of precision. And yet at the present day no oculist would examine a patient with any symptoms involving diminution of vision without its help, any more than the physician would for a moment hesitate to use the stethoscope, or his ear, where there was any question of pulmonary trouble.

As long ago as 1860, Dr. John Ogle wrote, "That the condition of the deeply-seated and delicate vessels of the eyeball may be, as it were, to a great extent (at least in some instances) a criterion of the state of the vessels of the brain-structure, may be with reason inferred from what we know of their anatomical relationship, their origin from the same arterial sources, and the innervation which, for obvious physiological reasons, they enjoy in common with each other."

Dr. Hughlings Jackson also observes, "It is, I submit, imperative, in all cases of severe cerebral disease, —at all events, in cases of an acute kind,—to examine the eyes with the ophthalmoscope, whether the patient complains of defect of sight or not."

Mr. Ernest Hart, in a paper on "The Ophthalmoscopic Signs of Constitutional Disease," read before the Harveian Society of London, January 21, 1869, remarks that the nervous and vascular tissues of the eye, as observed by the ophthalmoscope, gave characteristic indications not only of a number of cerebral and spinal diseases, but of many cardiac, visceral, and vascular diseases. In private practice the ophthalmoscope had decided the diagnosis when the question lay between typhoid and meningitis, and had indicated, more than once, impending cerebral or other organic disease, where only failure of sight was complained of. In a recent case he had prevented an insurance company from advancing a heavy sum on the life of a gentleman already insured, but in whom there had been ground for ophthalmic observation, owing to an anomaly of sight. The examination led to the conclusion that the arteries of the brain were atheromatous, which subsequent events confirmed.

It is well known to oculists that a peculiar form of retinitis occurs associated with Bright's disease of the kidney, accompanied by hypertrophy of the left ventricle of the heart. In such cases not unfrequently the diagnosis is made, not from the rude symptoms presented by the kidney change, but from the suggestive evidences afforded by the optic disc and retinal vessels. I can call to mind several such cases, and no doubt a search in the authorities would reveal many more. It is just in such cases that the united action of physician and surgeon is most happy. An illustration of this is well shown in the following case, occurring in the medical wards of St. Mary's Hospital during the spring of 1870.

J. S., æt. 21, native of the United States, was admitted March 1, 1870. His friends stated that during May, 1869, while intoxicated, he was exposed to rain and cold, and that shortly afterwards he was seized with spasms, rolling his head from side to side, biting his tongue, foaming at the mouth, with rigid extremities and unconsciousness. These spasms occurred every few minutes for two days, during which time he was not able to retain anything on his stomach. From this attack he slowly convalesced, but had afterwards, more or less constantly, dull pain in the head, on the right side, where he is said to have been wounded by a fall some time in March previous. Two weeks before admission, he was seized with an attack of vomiting, which persisted, in spite of treatment, for several days, and very much exhausted him. In January he noticed that his sight was growing defective. During the latter part of February, after getting wet in the rain, he had intense pain in the head, and constant vomiting. In this condition he applied for admission to St. Mary's Hospital, March 1, 1870. He was then very weak, and could not walk without assistance. His skin was sallow, tongue coated, breath offensive, heart's action feeble; there was no œdema of the face or limbs; the lungs were healthy; there was almost complete loss of vision. The principal symptoms were the pain in the head, the persistent vomiting, and the great diminution of vision. It was for this symptom that I was requested to examine the eyes with the ophthalmoscope. The left eye being rather more seriously affected, the pupil was dilated with atropia, but in the other it was not used. Externally the eyes appeared healthy, the pupils responding freely to light. He was merely able to count fingers held between him and the light with either eye. On ophthalmoscopic examination of the left eye, the position of the optic disc was found to be occupied by a grayish opaque swelling, which could only be made out by the convergence of the vessels, or rather the point of probable convergence, for the vessels appeared to be lost short of that point. The arteries could with difficulty be made out. The retinal veins were enlarged and tortuous, standing out in bold relief from the grayish-white track in which they ran. In the immediate neighborhood of the vessels were spots of hemorrhage, as though the blood had escaped from the overloaded vessels. Numerous yellow spots were found in the retina surrounding the optic disc. It was undoubtedly a case of retinitis, presenting all the appearances so well known as "retinitis albuminurica."

The urine was then examined, and found to precipitate half its bulk of albumen when tested by heat and nitric acid. Treatment was followed by no permanent good result. Vomiting continued. He became comatose, and died in two weeks. Although much desired, a post-mortem could not be obtained.

In diabetes somewhat similar appearances are presented,—at least they are sufficiently alike to direct attention to the state of the urine. There are the obscuration of the optic nerve, the interrupted retinal circulation, and the yellow patches scattered about in the

retina. Several years ago a friend was asked to examine a gentleman's eyes for failing vision. This examination led to the discovery of diabetes, of which the physician in attendance was not aware. In Jaeger's Ophthalmoscopic Atlas, Vienna, 1869, pl. xiii. fig. 64, is the only colored drawing of these changes of which I am aware.

When the frequency of syphilitic iritis is taken into consideration, together with the fact that iritis is hardly ever alone, but in cases of any activity is associated with choroiditis, it is remarkable that more cases of specific retinitis do not occur. It presents nearly always a uniform haziness or opacity of the retina, but the white specks occurring in Bright's disease are scarcely ever present; there may be whitish or gray radiating striæ and ecchymosis and blood-effusion. There is always, or nearly always, extensive choroidal disease associated with it. It differs from ordinary retinitis, in that the inflammatory action is particularly apt to confine itself to circumscribed patches; and there is, moreover, a marked tendency on the part of the new formations to become organized, a white, glistening patch appearing in place of the originally inflamed tissue. These changes may run their course in a particular spot, and yet the remainder of the retina present no abnormal appearance whatever. Perhaps the vessels passing to and from the inflamed patch may be slightly congested, but this is by no means a constant appearance; they can seldom be traced beyond it, as the tissue in the act of becoming organized contracts and obliterates them.

The question of the diagnostic value of the ophthalmoscope in tubercular meningitis has excited renewed interest during the last year or so. In the course of a valuable paper upon this subject, Dr. Allbutt remarks, "The important question for us now to decide is whether we have any means of detecting with certainty the presence of meningitis in those slighter cases where we can now only guess at it, or can scarcely even guess, and in which cases we need not expect to find a large percentage of mortality. It is here, I think, that the ophthalmoscope comes to our assistance, and gives us the same kind of help in detecting incipient or slight degrees of ulcerative change in the lungs, which, without it, are beyond certain diagnosis. When a patient is seized with vomiting, headache, convulsions, and other symptoms of much meningitis, and when at the same time, on examination with the ophthalmoscope, I find congestion of the optic disc and retinal vessels, which is nearly always the case, then I have no hesitation in saying that the patient is suffering from meningitis at the base of the brain, and the autopsy proves the diagnosis to be correct.

"The final question is, How constant are the evidences of the ophthalmoscope in undoubted cases of tuberculous meningitis?

"I have examined the eyes in about twenty-five cases of tubercular meningitis of undoubted character, which were watched through their course and ended in death. In every one of those twenty-five cases I found ophthalmic changes, and I generally found them on the first examination. The changes were, most commonly, marked degrees of hyperæmia of the retinal vessels, which became swollen, dark, and tortuous. These changes were often traced up to the full development of ischæmia, which appeared next in frequency. Optic neuritis I found in about twenty-five per cent., as it occurred distinctly in six cases."

Assuming, then, the frequency with which optic neuritis is associated with intra-cranial disease, it may be well to ascertain what are the peculiar features of this disease. The changes in the papilla are those of volume, form, and appearance. It becomes much larger than in the normal state. Its contour is badly defined, puffy, and infiltrated by a serous exudation, which renders all the nerve obscure, and of a reddish-gray or whitish-gray tint. The papilla thus becomes entirely opaque. It is evidently veiled by an exudation of a gray-violet color, which spreads itself like a haze over the papilla and adjacent part of the retina. In consequence of this infiltration, the optic disc is very much swollen, its edges become very irregular, as if indented, and undistinguishable in places from the healthy part of the retina. The most varied phenomena are observed in the circulatory system of the optic nerve, —in the central vessels and those of cerebral origin. These vessels are also masked by the exudation, and, although easily visible at the point of their emergence upon the papilla, as soon as they arrive at its circumference disappear under the exudation, and reappear farther beyond the morbid limit of the papilla. The central veins are considerably enlarged, becoming tortuous, or even varicose; they are darker in color, and gorged with blood. At the point of convergence with the arteries they are noticeably flattened, and give rise to the appearance of a coagulum. The arteries are little altered; at times they appear a little paler. The capillaries are enormously developed, principally when the affection occupies the central part of the nerve, and when it is due to a neuritis accompanying tumors of the brain. There is then a considerable augmentation of the volume of all these capillaries, which, in the normal state, escape all ophthalmoscopic examination. In this affection they become apparent, and attain often a considerable volume, especially when examined in the erect image. This development of the capillaries is greatest in the cases of neuritis accompanying cerebral tumors occurring at the base of the brain and in the region of the optic commissure, and is sometimes so considerable that they can easily be mistaken for capillary apoplexies. This state of the vessels, however, can only be observed at the origin of the affection. The malady in its progress produces a softening and an atrophy of the papilla, a state in which the greater part of the capillary vessels are atrophied and completely disappear, which explains the white tint exhibited by the papilla. A considerable engorgement of all the capillaries may exist for a long time without the rupture of their walls, but sometimes they give way, producing hemorrhages more or less extensive and numerous in the papilla and retina. This happens more frequently in venous ruptures,—sometimes even of the principal branches. There is then presented in the neighborhood of the apoplexy the appearance of an interruption or flattening of the torn branch. The coincidence of optic neuritis with apoplexies and retinal exudations is the sign of affection of the walls of the vessels, and very often of the heart itself. The existence of the affection in both eyes at once is one of the most important characteristic signs of optic neuritis arising from cerebral malady. So constant is this phenomenon as to be almost pathognomonic. Confined to one eye, it derives its origin elsewhere than from the brain. Very seldom do exceptions to this rule occur.

There are two principal forms of optic neuritis: one, the engorged papilla, as described in Dr. Allbutt's papers, in which the swelling and œdema are owing to mechanical constriction of the nerve and its blood-vessels by the sclerotic ring, the congestion so produced deepening into inflammation; the other form, the one we have been considering as arising from affections of the brain, tubercular or otherwise.

I will not exhaust the patience of the society by a description of the appearance of the nerve in disease of the spinal cord; the same central cause produces a like result upon the discs.

If any one desires to know what the ophthalmoscope has done for medicine, let him turn to the subject

of amaurosis as treated by writers twelve or fifteen years ago,—compare the labored, uncertain guesses at truth with the scientific precision of the present day,—and it will be seen at once that the whole subject has been revolutionized. As the stethoscope reveals processes not so well ascertained by mere rational signs, so the ophthalmoscope has been one of the means that have put modern medicine upon a basis of more rigorous investigation, substituting the evidence of actual observation for the speculation of doubt and probability. "Opportunity is fleeting, experience is deceptive, judgment is difficult," said the great Master of Medicine, more than twenty centuries ago. Judgment is still difficult, but the helps towards it have marvellously increased in these latter days. Let us use with zeal every means that may make our art more unerring.

NICKEL COIN IN BRONCHUS.

BY L. K. BALDWIN, M.D.

I WAS summoned in haste, on August 23, 1870, to see Agnes B., aged ten months, who (her mother stated) had swallowed a nickel cent. As there were no signs of strangulation, or other symptoms indicating a lodgment of the coin in the pharynx or œsophagus, I supposed that (if swallowed at all) it had passed into the stomach. I therefore did nothing more than order a purgative, and instruct the mother to watch the evacuations; assuring her, as is customary, that "*good coins always pass.*" The evacuations for several days were subjected to rigid scrutiny, but the missing cent failed to make its appearance. As nothing ever occurred to indicate the presence of the coin, either in the throat or the stomach, I felt convinced that it had been lost instead of swallowed, as no one actually saw the child swallow it; but I was mistaken, for the child, in a fit of coughing, on January 5, 1871, threw up the long-lost cent, after having had it secreted for a period of four months and fourteen days. It was tarnished, but not corroded. I could detect nothing in the throat when called to see the child, nor were there ever any indications of a foreign substance having been lodged there; yet it must have remained for that length of time in some recess outside of the stomach, for, had it reached the stomach, the acids with which it would naturally have come in contact would have corroded it more than the secretions to which it had been subjected.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CASE OF FRACTURE OF BOTH RADII AND OF THE PATELLA, WITH SEVERE LACERATED WOUNDS.

SERVICE OF PROF. D. HAYES AGNEW.

Reported by C. T. Hunter, M.D.

JAMES M., æt. 30, was admitted to the Pennsylvania Hospital, April 26, 1870, for Barton's fracture of both radii, extensive scalp-wounds, lacerated wounds of lower lip and tongue, and, in addition, what appeared to be a contusion of the right knee. These injuries were the result of a fall head-foremost, some twenty feet, from a loft at the Navy-yard. On admission, two or three hours after the occurrence of the accident, the patient presented well-defined symptoms of concussion of the brain, in addition to his other injuries. The fractured radii were dressed with Bond's pistol-shaped splints, the almost universal method practised in this institution for this form of fracture. The scalp-wounds were closed by strips of adhesive plaster, the wound of the lip by a couple of ordinary hare-lip sutures, and the wound of the tongue, which was fully an inch and a half long and involving its entire thickness, by a couple of silk sutures. Previous to his admission he had had free hemorrhage from the mouth and nose, but no blood had escaped from his ears.

On the third day, he for the first time became conscious, and from this time forward until his discharge from the hospital he complained almost constantly of severe headache. He was so restless that it became necessary to daily readjust his dressings, in order to keep the fragments in good position.

On the fourth day, a fly-blister was applied to the nape of his neck and his head shaved, which in a great measure relieved his headache and restlessness.

On the 10th of May the sutures were removed from the tongue, perfect union having taken place. The scalp-wounds and the wound of the lip had healed kindly, and the patient had been walking about the wards, with the aid of a cane, for two or three days past.

On the 13th of May, seventeen days after the date of the accident, the patient called our attention to his right knee, remarking at the same time that he was unable completely to extend his leg. A careful examination of the knee revealed a transverse fracture of the patella, with sufficient separation of the fragments to admit the finger between them. Probably the tendon of the quadriceps-extensor muscle had not been entirely torn across, otherwise there would have been more marked deformity and greater separation of the fragments, together with complete loss of power of extending the leg.

The patient, notwithstanding this injury to an important structure of his knee-joint, was able to walk about the wards and the yard, and into the clinic-room, with no assistance save that afforded by a cane. Dr. Agnew, the visiting surgeon, directed that the fragments of the fractured patella be approximated and retained in position by strips of adhesive plaster and a figure-of-8 bandage, and that the limb be placed on a single inclined plane.

The splints were removed from the forearms on the 22d of May, firm union, without a single trace of deformity, having taken place between the fragments. On the 9th of June the dressing was removed from the injured knee, and the patient, having procured a lace knee-cap, was permitted to get up and walk on his leg. He received his discharge on the 11th of June.

I have seen this patient several times since he left the hospital, and he has always assured me that he has almost perfect use of all his limbs. He has resumed work at the Navy-yard.

FRACTURE OF EXTERNAL CONDYLE OF HUMERUS, WITH EXTERNAL LATERAL LUXATION OF BONES OF FOREARM.

SERVICE OF PROF. D. HAYES AGNEW.

Reported by C. T. Hunter, M.D.

MARGARET McE——, æt. 29, was admitted to the Pennsylvania Hospital on the 7th of April, 1870, for a fracture of the external condyle of the humerus, complicated with external lateral displacement of the bones of the forearm. These injuries had been inflicted five days before the date of her admission, by her husband, who, in a drunken frolic, swung her by her hand violently across a stove. Immediately after receiving them she applied to a doctor in the neighborhood, who gave her something with which to bathe the parts.

When first admitted, her arm, forearm, and hand were greatly swollen, and the elbow was exquisitely painful on the slightest motion or pressure. For the first two days the whole limb was enveloped in a lotion consisting of equal parts of laudanum and lead-water, and supported on a pillow, the patient being confined to bed.

On the third day, the tumefaction having subsided in a considerable degree, a careful examination was made by Dr. Agnew, the attending surgeon, and the fracture and dislocation detected. He was unable, however, to find the exact location of the fragment that had been broken off from the external condyle. This fragment had apparently become wedged in between the bones forming the elbow-joint, and resisted all attempts to reduce the luxated radius and ulna,

nor was it possible to flex the forearm to a less degree than a right angle, nor to completely extend it. The limb was dressed with an enveloping bandage and an anterior obtuse-angle splint. After the second week, when all the acute symptoms had disappeared, the angle of the splint was changed two or three times a week. Four weeks after admission, Stromeyer's splint was applied, and its angle changed daily. It was impossible, even with the aid of this powerful agent, to increase the range of motion in the limb.

On the 16th of May all dressing was left off, save an enveloping bandage, and on the 21st of May the patient was discharged.

One week later, she returned to show me her arm. She said that she had been doing light work with her arm since leaving the hospital. On examining the limb, I found that the range of movement, though good, had not been increased, but that the parts about the elbow-joint were quite as strong as ever.

THE COMMUNICABILITY OF SYPHILIS BY VACCINATION (*Inaug. Diss. von A. Rahmer*, Breslau, 1869).—Köbner states, as the result of numerous experiments, where inoculation was effected by fluids containing the syphilitic virus in a very diluted state (as, for example, the blood in certain periods of constitutional syphilis), that the *quantity* used is a factor of great importance in the solution of the problem. The attempts at inoculation made by Waller, Pellizari, Thiry, and the anonymous surgeon of the Palatinate, were always negative when the experimenters trusted to small scratches with the lancet, and successful only when a *large* quantity of syphilitic blood was brought in contact with extensive absorbing surfaces, produced by vesication or by cut cups. It is therefore impossible, argues Rahmer, that the minimum amount of blood which may be mixed with the vaccine lymph should be, as Viennois stated in 1860, the only vehicle by means of which syphilis can be communicated by vaccination. Again, the small number of successful inoculations by means of syphilitic blood, as compared with the frequency of the cases when the disease follows vaccination from the arm of a person afflicted with syphilis, is a powerful argument against the theory that the blood is the only carrier of the poison. According to the statistics published by Roberts, based on nineteen inoculations with syphilitic blood, the disease followed vaccination from infants affected with syphilis in 66 per cent., while the inoculations succeeded only in 26 per cent.

According to the experiments of Schreier and others, syphilis cannot be communicated by means of the clear, unmixed vaccine lymph taken from the arm of a child known to have constitutional syphilis; nor is this possible, as Boeck has shown by his inoculations, even of lymph mixed with blood which is taken from the vaccine vesicle of a syphilitic child, unless the blood is present in a larger quantity than is usually the case in vaccination. Hence, according to Köbner, we must seek another vehicle, and this is the secretion of a local syphilitic affection, which has its seat in the basis of the pseudo-vaccine pustule. This may present itself either in the form of an ulceration or commencing induration, dating back only to the time of vaccination, or it may be an infiltration, which is a local manifestation of constitutional syphilis which has already existed some time. For instance, if a child with latent hereditary syphilis, or, it may be, manifest constitutional syphilis, is vaccinated, we find that after a few days a syphilitic infiltration takes place around the vaccine vesicle, which itself follows a perfectly normal development. If the lymph from this vesicle be used in vaccinating another child, and, through carelessness, the product of the syphilitic infiltration also be conveyed on the point of the lancet, the disease will certainly be communicated to the healthy child, and we will have a specific ulcer developed at the place of inoculation, either at once, on the eighth or tenth day, or subsequently, in the cicatrix itself. As a rule, the vaccine pustule has a normal appearance on the eighth or tenth day after vaccination, and the first symptoms of constitutional syphilis appear from four to eight weeks later. The supposition of so rapid a manifestation of constitutional syphilis after vaccination is at variance with the opinions of former observers, who have described a period of incubation lasting several weeks; it is, however, in strict accordance with the experiments of Köbner and Bidencap, which show that the inoculation of the secretions of the products of secondary syphilis may produce pustules, and subsequently ulcers, in a space of time varying from forty-eight to seventy-two hours. Bohn, from whose review of Rahmer's thesis this abstract is taken, urges the necessity of a stringent adherence to these rules: 1. That the pure, clear lymph should alone be used; 2. That this should be taken from children who are at least from three to six months old, since by this time hereditary syphilis, if present, will certainly have manifested itself.

ADDISON'S DISEASE AND SCLERODERMIA.—Dr. J. M. Rossbach, of Würzburg, relates (*Virchow's Archives*, August, 1870, and *Glasgow Med. Journal*, November, 1870) a case of the coexistence of these two diseases in the same patient, but during life the symptoms of Addison's disease were the more prominent. There was no disease of the supra-renal capsules discovered after death. The state of the skin termed sclerodermia existed in this case mostly on the extremities, and consisted in the conversion of the subcutaneous adipose tissue into firm connective tissue, with hypertrophy of the smooth muscular elements of the skin. The pigmentation of the skin presented some marked peculiarities. In the greater number of recorded cases of sclerodermia there has been no pigmentation, and where it did exist, the color was more of a brown, or yellowish-brown, than the deep bronze of Addison's disease. In the author's case, the color, where it existed, was very intense, but it was almost entirely absent in the parts where the sclerodermia was present, so that in respect to pigmentation the skin exhibited the peculiarities of both diseases. Again, the usual seat of increase of pigment is the rete mucosum, forming a simple increase or hyperplasia of the pre-existing pigment; in some cases, however, it has been observed to a less extent in the cutis itself; but in the case related, the pigment not only existed in the cutis, but was greater in amount there than in the rete mucosum, being especially developed around the sweat-glands. The subject will be concluded in a succeeding paper.

INFLAMMATION.—Dr. V. Feltz, of Strasbourg, has addressed to the French Academy of Sciences (*Comptes Rendus*, June 6, 1870, and *Quarterly Journal of Microscopical Science*, Oct. 1870) a short account of observations on inflammation, in which he states that he has failed to see the passage of white corpuscles through the vascular walls described by Cohnheim. In inflammation of the peritoneum, he has convinced himself that the leucocytes are not, at all events, produced by proliferation of the epithelium; but in inflammation of the cornea the connective-tissue corpuscles may give rise to new elements, which assume the form of leucocytes.

PERFORATION OF THE UTERUS WITH THE SOUND.—Dr. Alt (*Berliner Klinische Wochenschrift*, Oct. 17, 1870; from *N. Y. Med. Jour.*, Jan. 1871, p. 97) remarks that when the uterine sound has been introduced to a depth much beyond what is normal, it is supposed to have entered an enlarged Fallopian tube. Three such cases have lately occurred, which put the subject in a different light. In the first case, one month after an attack of puerperal fever, the sound was passed to the depth of two and a half inches, but on slight pressure it entered to a depth of six and a half inches, and its tip was distinctly felt through the abdominal walls. No pain was experienced, nor was any subsequent peritonitis developed.

In the second case, four months after an attack of puerperal fever, attended with metastatic abscesses, the sound was introduced into the uterus, which was of normal size. Upon slight pressure, it passed to a depth of five inches. The temperature and pulse rose at once, but on the next day she was quite well, and four days later left her bed.

In the third case, a few months after the delivery of a tuberculous patient, the sound was introduced to a depth of seven inches, and was distinctly felt through the thin abdominal walls. No pain or inflammation followed. The woman subsequently died of tuberculosis, and the autopsy revealed a perforation of the left angle of the uterus. No traces of recent peritonitis were found, but the uterine walls were in a state of fatty degeneration, and easily torn.

THE MEDICAL TIMES.
A SEMI-MONTHLY JOURNAL OF
MEDICAL AND SURGICAL SCIENCE.

PUBLISHED ON THE 1ST AND 15TH OF EACH MONTH BY
J. B. LIPPINCOTT & CO.,
715 and 717 Market St., Philadelphia, and 449 Broome St., New York.

SATURDAY, APRIL 1, 1871.

EDITORIAL.

MODERN THERAPEUTICS AND THE METHODS OF ADVANCEMENT.

No. I.

If there be any peculiar, distinguishing trait of the general medical mind of the passing quarter of a century, it is, we conceive, the wide-spread discontent with our present methods of combating disease. A sort of therapeutical unrest pervades the whole professional atmosphere. Pathology, it is said, has advanced with giant strides, and diagnosis has kept pace with it, while therapeutics has lagged far behind, so that it is still without any definite, fixed principles, at best but a chaos of forces, applied almost at random and according to the whims of each individual medicus. The treatment of rheumatism is the favorite, oft-cited illustration of this. In this affection, bleeding, nitrate of potash, quinine, mercurials, large doses of alkalies, bromides, veratria, flying-blisters, and a score of other remedies, all undoubtedly have their advocates, clamorous for a hearing; and above the tumult sound the trumpet-tones of a Chambers,—"Put your patients between blankets and let them alone." Such, in truth, is the jubilee with which the profession celebrates its nearly two thousand years of medical experience. Is it a wonder, then, that there are men who, deafened by the conflicting sounds, simply close their ears to all alike, and take refuge in the calm harbor of nihilism? Yet to do this is to lie down content to rest in the sleep of the lotos-eater, hopeless of future power. In the noise and din of the workshop alone can be fashioned any good thing. Out of the heat and smoke of conflict cometh the greatest human good. In the present discontent—in the universal, intense, eager longing and striving for better methods—in the very discord and confusion—are to be found the surest auguries of future advancement.

Though this be so, yet it is well to pause sometimes long enough to see how far the battle has progressed, and in what direction it shall best be pushed forward. An examination of the numerous complaints against our present system, if such it can be called, will show that the burden of very many of them is for "fixed principles." Exactly what is meant by this is not, perhaps, easy to determine; but if some guiding foundation-idea—some universal law—some "similia similibus curantur"—is expected, our poor, abused modern therapeutics has at least hobbled far enough onward to show that none such exists. That there are not, even now, certain grand principles of practice thoroughly established, cannot, however, be maintained, in the face of such universally recognized maxims as, "Exanthematous fevers should be guided, not interrupted." Already, then, we maintain, certain prominent landmarks are revealed; and although gaps and waste places most painfully abound, yet enough of fixedness is apparent to shadow out dimly the great system of modern therapeutics, whose perfection shall be one of the grandest and last, as most difficult, of human achievements.

Variety is not disunity, a fact—often lost sight of by critics—whose happiest illustration is to be found in the treatment of the disease already alluded to.

Men never will act and think alike so long as they are at once fallible and intelligent. If there are numerous paths to the same goal, each will be trodden by its votaries, unless one be very distinctly proven to be much shorter and safer than the others.

In all the various active methods of treating rheumatism the same end is attained,—*i.e.* depletion and elimination; the various plans are merely different roads to the one goal. Pathology is spoken of everywhere respectfully, while therapeutics is often sneered at; yet it is very evident that there is at least as much real unity in the various theories of the treatment as of the pathology of rheumatism.

We are, then, distinctly among those who believe that, even as now understood, the science or art of therapeutics is of inestimable value. No one is more hopeful for the future, and no one, therefore, will admit more freely that the great, pressing problem of to-day is, How shall our treatment of disease be best improved? There seem to be but two great highways: the one, that of empiricism; the other, that of scientific research. "Experience," says the old proverb, "is the mother of wisdom." Surely, in medical matters, the time of her sorrow and travail is long, for although two thousand years of waiting and striving have passed by, not yet can she rejoice because a man-child is born unto her. That the profession is indebted to empirical experience for most of its present power is true, but that experience has told so many contradictory stories as to give good ground for constant doubting is none the less true. To experience appealed the sages of old to prove the virtues of their draughts of horsedung- and cockroach-tea. By experience did the past generation of doctors know that not to bleed a man suffering from pneumonia was to consign him to an unopened grave, while by the same token do many of their children assert that to bleed is to kill. The great present apostle of clinical empiricism as the only method of making therapeutics an exact science, is Prof. Niemeyer, of Germany. His plan is that close and careful analysis of cases shall be made before and after the administration of a remedy, and, if the results are favorable, that the use of the drug be recommended in similar cases. This plan the doctor extols to the skies, and asserts "that experiments made with medicaments

upon the lower animals, or upon healthy human beings, have as yet been of no direct service to our means of treating disease, and that a continuation of such experiments gives no prospect of such service."

Dr. Niemeyer is forced, however, to acknowledge that in very many instances clinical experience has in the past led men most falsely; but now, he asserts, the more rigorous methods of observation—the thermometer, stethoscope, and other modern inventions—have at last made the crooked places straight, and thrown up a broad highway, along which the path is plain.

As a most brilliant result of his plan, he points to the establishment of precise indications for the use of digitalis in diseases of the heart.

As to the truth of the latter assertion we do not here take absolute issue, but we think most practitioners will join us in the wish that it was as true at the bedside as at the writing-desk. Supposing it to contain a fair measure of truth, however, do we know how or why digitalis acts? That such knowledge would increase our power and confidence, making us far more sure that our trusted facts would not wither in the future as they have in the past, who can deny? It is just here clinical experience entirely breaks down. Has it taught us how a single drug acts? Has it been able to explain so simple a problem as how atropia dilates the pupil? The world is yet ringing with the answer to Dr. Niemeyer's sneer at the scientific study of therapeutics: chloral—the greatest single addition to our means of treating disease, save anæsthetics and cod-liver oil, that modern medicine has known—was a discovery solely and purely the result of scientific induction,—a discovery, too, of far more value than the half-revealed facts in regard to digitalis, of which he seems so proud.

That clinical bedside study must be the ultimate test of the value of treatment is most wholesome doctrine. But such doctrine is far different from the teachings of Niemeyer. We hold that it should be the *final* test; that before clinical therapeusis can make very great and really permanent advancement, or at least before it can approach its highest perfection, it must be preceded by a deep, exhaustive study of the natural history of disease and of the powers of the drugs or instruments with which it works. Then, indeed, may experience become the mother of wisdom.

One of the great modern inventions is the tabular statement of results; and we have always thought that the father of lies must have had a close connection with its origin. All statistical comparisons in medical matters are notoriously poor guides, very apt to lead their followers into the quagmire of doubt and uncertainty, or the slough of absolute error, which, by a sort of mental mirage, stretches out into a fair landscape of truth. The varying fatality of different epidemics, the effects of overcrowding and bad sanitation of hospitals, constitutional differences in different classes of patients,—in a word, the infinitely various conditions of the past and present of the persons treated,—must always throw a shadow of distrust over statistical studies; but when to these are added the varying capability, carefulness, and honesty of the men from whose observations the statistics are compiled, the search for truth in this way certainly demands more than human sagacity. Capability, carefulness, and honesty must always remain unknown quantities in such equations. Our own comparatively brief experience has engendered a most painful want of confidence in published results: cases falsified, wittingly sometimes, but more often unwittingly through enthusiasm or carelessness, we have seen so often dropped into the great heap of medical statistics, that a deep suspicion as to the quality of the whole mass has been constantly strengthening, year after year. Again, the living praise the doctor; the dead are buried out of sight, and no man knoweth it. The more roseate the experience of any, the more eager is he to expose his canvas to public gaze.

A curious instance of the value of the statistical method is to be found in a comparison of the recent treatises of Drs. E. Kennedy and M. Duncan on Hospitalism. They both take the statistics of the Dublin Lying-in Hospitals for their bases, shake them a little in their dice-boxes, and, lo! for the one they put a stamp of death, for the other the stamp of life, upon the use of large hospitals. *Verbum sat sapienti.*

The disease over which the statistical battle has waxed hottest is pneumonia, and as a fair sample may be taken the tables of Dr. Rogers (The Present State of Therapeutics, London, 1870). They are fairly compiled, as the manner is, and indicate very decidedly that the nihilistic treatment is the best. They are, however, in truth, of but the usual value,—*i.e.* none whatever; a mere hodge-podge of all ages, ranks, and conditions of patients suffering from all forms and varieties of a disease in which several different anatomical lesions are found after death, but to which the systematist has given the name of pneumonia. The practitioner is not very deep in his art who has not learned that pathological unity is often associated with therapeutical diversity. The systematist may very properly consider pneumonia as a single disease, but to the thinking therapeutist it is several affections, which are, from his stand-point, much more diverse than many which the systematist ranks as distinct species. The broken-down pauper or debauchee, the overworked, anxious business man, attacked by pneumonia, may be saved, and saved only, by free stimulation and support; while the only hope for life to the sturdy young farmer, gasping for breath, with lungs and heart paralyzed by congestion, may be found in free bleeding. Much better and more rationally might the various exanthemata be tabulated as one disorder, and the practitioner still be called on to prostrate himself before the Juggernaut of the modern statistician. We protest against all these tables, which are being so constantly hurled at the profession to dragoon them into uniformity with some pet idea of their originators. We subscribe most fervently to the sentiment of some forgotten author, that "modern statistics are a howling ocean, into which no diver ever went far and came back sane."

It is said that among the olden Jews the test of the

truth of the claims of any one stating himself to be a prophet was his power of persuading the people that he was sent from God. If he was able to inspire in the hearts of the people the belief in his divine mission, he had fulfilled the requisite conditions, and could demand the legal recognition of his prophethood.

Somewhat similar is it in regard to therapeutical measures. The general professional mind is, of course, often mistaken,—constantly dropping to-day what it yesterday held firmly; yet it is always eagerly attentive for any new thing that makes promise of usefulness, and we had rather trust it for holding fast to a good thing than to any statistical table. The fact of the general confidence in any measure of treatment is very good ground for believing that nothing better has been proposed, and, when any new method is brought forward, the test of its value is its power to command recognition, just as in the case of the Jewish prophet. Looking over the field of past clinical research, and believing in this receptive and sifting power of the general profession, there appears to be good ground for expecting a slow improvement—often one-sided, often, for a time, hasty and immature, but still a sure improvement—in therapeutics by clinical study, even if unaided by the physiologist.

For reasons, however, before asserted, it must be allowed that if clinicians, refusing the assistance of the experimentalist, attempt to solve alone the problem of the treatment of disease, they will not only progress most painfully and slowly, but will also fail in ever attaining the highest good. Valuable as mere empiricism has been, and still is, it is very demonstrable that it would be vastly more valuable if founded upon and travelling side by side with what may be called experimental therapeutics. On this the second heading of our theme, however, we cannot to-day enter, but must leave it for a future number.

TRANSACTIONS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

At a conversational meeting, held February 22, 1871, Prof. J. Aitken Meigs, President, in the chair,

Dr. A. D. Hall read a paper entitled "The Ophthalmoscope in Medical Practice." (See this number of *The Medical Times.*)

Dr. Lee said he had listened with interest to the speaker, and would have been glad to hear him give the appearances of the retina in cases of disease of the spinal cord.

Dr. Hall, in reply to Dr. Lee, regretted that he did not have the opportunity to examine the retina in diseases of the spinal cord. He had intended his paper to be a suggestive one, that it might stimulate to observation with the ophthalmoscope those who treated cases of disease of the nervous system.

Dr. Turnbull said he had heard with much interest the valuable paper by Dr. Hall, and was able by his own experience to confirm many of his statements as to the value of the ophthalmoscope in medical practice. In no department has it given greater precision than in that of the study and treatment of syphilitic affections of the eye. The following is an interesting case of diseased retina, in which the sheath of the third pair of nerves was also involved:

James T., æt. 26, a printer, had almost complete loss of vision in right eye, with ptosis. In 1866, he contracted syphilis, and had several chancres, which were cauterized. He was also treated by mercurials, and the sores healed. About twelve months later, after exposure, he was seized with intense pain in his head, followed by swelling over the frontal bone, and incapacity to swallow or talk. Tinct. of colocynth, followed by large doses of the iodide of potassium, relieved these symptoms. September 16, 1870, he was again attacked with pain in the temple, dilatation of the pupil, and loss of power to raise the right eyelid; vision was double, and a mist or halo surrounded every object. When he walked upon a level surface, he had but little difficulty; but if an object was in the way, he was apt to trip, or even fall. The treatment consisted in blistering over the forehead, subsequent dressing with one-thirty-second gr. sulphate of strychnia, and internally iodide of potassium and bichloride of mercury. September 27.—Pain had disappeared, and the eye moved better. Bowels being regulated by an aperient pill of aloes, the appetite was good, pulse regular. Ophthalmoscopic examination revealed great hyperæmia, numerous small vessels over the retina also giving a bluish-gray tint to the optic discs. He can read with right eye No. 6½ Snellen. No halo round the object; can turn the eye, though with difficulty, to right and left. No pain. (The speaker illustrated the appearances at this date by a photograph.) On October 17, could elevate the eyelid several lines higher than represented in photograph. Vision had also improved. When he looked directly forward, objects did not appear double; but if he looked to one side, double vision remained. When he smiled he still contorted the face. The treatment was continued. October 20.—Suffering with deafness and tinnitus aurium, which on examination were found to depend upon altered cerumen. These symptoms were relieved by injecting a solution of warm bicarbonate of soda. The Eustachian tube was catheterised. November 11.—Improvement continued. The interrupted current as recommended by Myers—electro-positive pole to the hand and negative to the closed eyelids—was applied for a few minutes. It caused contraction and discharge of tears. Stated he was better able to elevate the lid; could read but a few letters of 8½ Snellen, and noted a haze around the light. November 28.—Again applied the current. Vision much improved; able to read 6½, and has no pain. Able to walk to the office without help,—a distance of eight squares. Has taken no medicine since the 3d inst. In November and December he continued to improve, until his eyelid acted as well as the sound one, but vision was still defective. In January he had another relapse, with vertigo. He was taken in the street, while going to his place of business. When he reached home he began to vomit. This continued for about twelve hours, with pain in the head and a return of the ptosis, together with great feebleness of the limbs. February 4, 1871.—Pain was relieved by the use of iodide of potassium,—20 grs. every three hours. Has been smoking too much tobacco. Was directed to mix mullein-leaves with the tobacco. Dizziness seemed to be increased by smoking. February 11.—Pain has disappeared; more motion of the limbs; getting stout. Has resumed the coil of Duchenne, and employs medicine only once a day.

It will be noticed that in this case the excessive use of tobacco was always injurious; and yet Dr. Turnbull had met with but few cases of affection of the retina, the result of the habitual use of tobacco. Mr. Carter, the translator of "Zander on the Ophthalmoscope," is of the same opinion, and he quotes letters from two of his friends,—one from Dr. Dickson, the physician of "Her Majesty's Embassy" at Constantinople, and the other from Mr. Farquhar, who was for many years the Surgeon to the British Consulate at Alexandria. Mr. Farquhar states "that among the many thousand diseased eyes that he has examined, it was always a mystery to him that he saw so very few cases of this affection." Dr. Dickson writes that "amaurosis, taking the term in its widest sense, is not a common complaint in Constantinople or in Turkey, where smoking is universal. The usual amount of tobacco consumed by one person per month may be estimated at an

'ohe,' or about two and five-sevenths pounds avoirdupois." Yet we have the authority of such careful observers as Makenzie, and more recently Critchett, Wordsworth, Hutchinson, and Sichel, who believe that it gives rise to a peculiar and distinctive form of loss of sight, which they have termed "tobacco amaurosis." So far as his own experience went, Dr. Turnbull had always found that those who consumed a very large quantity of tobacco employed stimulants very freely; and this always produces injurious effects upon the liver, stomach, and other organs, and ultimately upon the eyes.

Dr. Hall, in reply to Dr. Turnbull, said he had not seen any clear case of "tobacco amaurosis." In those cases in which it might have been supposed to exist, it was found that alcohol was consumed to excess. In the cases which had come under his notice, he attributed the nerve-atrophy to alcohol rather than tobacco. As to the frequency with which changes in the optic nerve occur in connection with tubercular meningitis, he thought that Bouchut had overrated it. It depends upon the situation of the pathological changes as to their effect upon the disc. We may have a total meningitis, and no trace of it upon the nerve or retina. He had seen quite a number of cases of loss of the eye, during and after cerebro-spinal meningitis. In one case apparently hopeless, at Dr. Da Costa's suggestion iodide of potassium was used in large and frequent doses, and the patient, a child about five years of age, recovered with a soft and atrophied eye. He had also seen cases in hospital and private practice of wasted, disorganized eyes attributed, and no doubt justly, to the so-called "spotted fever." In regard to the treatment of iritis, he relied very much on the local use of atropia. Many cases can be treated in this way without other measures. A recent case he certainly would treat in this way, reserving local depletion and the use of mercury internally for those cases where the inflammation did not yield to the atropia. Mercurial inunction, as lately revived in England, and the mercurial vapor-bath, did not prove so successful in his hands as in those of its advocates. The prompt treatment of iritis is exceedingly important. After adhesions have formed, there is danger that the disease will recur again and again upon very slight exposure, and there may result such defect of vision as to require operative interference in its behalf.

Dr. Turnbull observed that there was a form of exophthalmic goitre (Graves' disease, Morbus Basedowii) which, owing to the swelling and enlargement of the thyroid gland, is very apt to be confounded by those who seldom see the disease with bronchocele, and in which the prominent symptoms are, in the first stage, protruding eyeball, great palpitation and rapidity of heart's action. There is a staring look, which the late Von Graefe attributed to the fact that the upper lid does not quite follow the movement of the eyeball. This elevation of the upper lid is quite independent of the exophthalmos. The only peculiarity of this form of bronchocele is that the veins are generally much dilated. It is considered probable that the affection is due to irritation or neurosis of the sympathetic nerve, and the interrupted and continuous currents have been employed in its treatment. Virchow first called attention to the fact that if iodine is administered and the bronchocele disappears, marked acceleration of the pulse and palpitation of the heart may be observed. The proper treatment for this disease are the preparations of iron, digitalis, and quinine, together with nourishing diet, abundance of outdoor exercise, and freedom from care. A firm compression may also be applied, in the form of an ice-bag or cold-water compress. Von Graefe recommended in very severe cases partial tenotomy of the levator palpebræ superioris.

REPORT OF THE PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA.

At a meeting of the Pathological Society, held Thursday, February 23, 1871, John Ashhurst, Jr., M.D., in the chair,

Dr. S. W. Gross presented a large specimen of *proliferous cysto-sarcoma* of the breast, from a lady, forty-eight years of age, who first noticed it as a small "lump" fifteen years ago. It slowly increased in size up to a year ago, when it began to grow more rapidly, the growth having been most rapid during the past three months. The tumor was large, bulky, and heavy, and inconvenient for these reasons. It was freely movable on the subjacent parts; the nipple was natural; the subcutaneous veins were greatly enlarged; its consistence was uniformly firm and somewhat elastic, except towards its axillary margin, where there was an obscure sense of fluctuation, and the surface was tuberoid or lobulated. The skin at this point was adherent, discolored, and attenuated, but over the remainder of the mass it was free and of the natural tint. The patient enjoyed the best of health, and the axillary lymphatic glands were not involved.

The tumor, which was extirpated by Prof. Gross on the 23d of February, when cleared of fat was spherical in form, six inches in diameter, and weighed four pounds and a half. It was lobulated, contained in a well-defined capsule, and made up of cysts, which, varying in size from that of a small shot to that of a hen's egg, were proliferous,—first, with cysts with pellucid walls and fluid contents, attached for the most part by broad pedicles, and secondly, with solid fibrous masses, which had broad attachments, their free extremities presenting varied appearances, of which the most common were the lobulated, dendritic, fimbriated, and cauliflower. These vegetations almost entirely filled the parent cysts, there being but a thin layer of straw-colored fluid between their respective walls. Section of the tumor showed it to be succulent, and the main mass, as well as the vegetations, to be made up of a smooth, glistening, striated, yellowish-white tissue, with many points of firm, gelatiniform structure.

The microscope revealed fibrous tissue in various stages of transformation, and rich in spindle cells. Numerous sections of the solid intra-cystic growths disclosed the same elements, with the addition, at rare intervals, of patches of gland-structure. The translucent gelatinous masses were composed of spindle cells, with oil-globules and granular matter.

The specimen was referred to the Committee on Morbid Growths, who reported, on March 9, that they believed the cysts to have had their origin in dilatations of the milk-ducts. The rapidly proliferating connective tissue had thrown out papilliform projections into the ducts, which finally became large enough to occlude them, thus causing dilatation of the portion of the duct behind the obstructed portion, and the formation of a cyst. On these cysts secondary cysts have been formed in a similar manner.

Dr. J. H. Hutchinson presented remarkable specimens of *hydatid cysts* of the *liver* and *hydatid cyst* from the connective tissue of the *pelvis*, removed from a Frenchman, aged thirty-two, who was admitted to the Pennsylvania Hospital, February 8, 1871, and died at noon of the 10th. He had observed slowly-increasing distention of his abdomen and lower part of his chest for several years, and four years ago he was suddenly seized with intense pain in the right chest, attended by dyspnœa and expectoration of a yellowish matter mingled with blood, so abundant as nearly to have suffocated him. During six weeks previous to admission he was confined to his bed, and complained of epigastric pain, with general abdominal tenderness and sense of weight in the lower belly. He had constant vomiting and diarrhœa, the stools occasionally containing blood.

The liver-dulness began at the fourth rib, and extended in the line of the nipple 5½ inches, in the axillary line 7 inches. To the left of the median line, and slightly below the ensiform cartilage, a projecting mass or nodule could be obscurely felt, about the size of a large egg. In the hypogastrium palpation indicated resistance, but no distinct tumor was detected. Some pain was present on pressure in the left portion of the hypogastrium. No œdema.

On *post-mortem* examination, the *heart* was found displaced slightly to the left and upward. The *right pleural* cavity was almost obliterated by old adhesions. The lung was lacerated in the dissection, and a large mass of blood-clots noted, but their origin was not discovered. The liver extended two inches below the arch of the ribs. It was greatly enlarged; the right lobe was adherent on its convexity to the diaphragm, and presented an immense whitish-yellow tumor, occupying the whole extent of the lobe, and substituting the hepatic tissue. This was fluctuating, and was found to be an

immense hydatid cyst, of a capacity of three quarts, containing hundreds of "daughter cysts," varying from the size of a pea to that of a hen's egg. No distinct "granddaughter" cysts were found. On the anterior surface of the liver, at its middle, was a small, firm, nodular projection, about 2½ inches in diameter, and resembling exteriorly the large cyst. At the left edge of the left lobe was a thick yellow cicatrix. The gall-bladder was partially distended. The *kidneys* were albuminoid in places.

The *pelvis* was completely filled by a large, white, tense, thin-walled cyst, having no intimate connection with any organ, but springing from the connective tissue between the rectum and the prostate gland, pushing up and supporting as it were the bladder. It contained 3½ pints of amber-colored, slightly-turbid fluid, containing many echinococci. Chemical examination of the fluids of the cysts by Dr. Hare resulted as follows:

Cyst of Liver.—Alkaline; sp. gr., 1011; yellowish-white; turbid; highly albuminous; a small amount of chlorides; a small quantity of phosphates; a minute trace of carbonates; a large amount of fat; some cholesterine; no bile-acids; some biliary coloring matter. On treating deposit with boiling alcohol, round sac-like bodies present themselves.

Free Cyst.—Acid; 1008 sp. gr.; white; turbid; abundant chlorides; no phosphates; no carbonates; no albumen; no cholesterin; a little fat.

Microscopic examination by Dr. Richardson showed some increase in the connective tissue of the kidney. The liver was slightly fatty; its fibrous tissue somewhat increased.

In answer to the PRESIDENT, Dr. Hutchinson said he thought that there was no reason for supposing that the free abdominal cyst had escaped from the seat of the cicatrix in the lobe of the liver, but rather that the echinococci had reached this situation directly from the rectum. Dr. H. thought it was the only specimen ever presented to the society; certainly the only one positively known to have come from the Pennsylvania Hospital.

DR. C. B. NANCREDE referred to a degenerate hydatid cyst which had been presented for him by Dr. Mustin at a meeting of the society in the past year. The abundant presence of hooklets of the echinococci indicated its true nature.

DR. W. W. KEEN presented the *lower third of a tibia and fibula* from an *amputation* of the leg. The case was that of P. D., an Irishman, æt. 34, who fell from a street-car and was struck on the inner side of the right ankle by the wheel. The internal malleolus and the internal lateral ligament were exposed in the middle of a large flesh-wound, but no injury to the joint could be detected. Both bones were badly fractured above the joint, and the articulation was opened on the outside by a small perforation where the external malleolus was chipped and the astragalus could be felt. Amputation was decided upon, and was done, sixteen hours after the accident, by double flaps, utilizing the wound made by the accident.*

A point of further interest was revealed on cutting open the joint,—viz., there had been a *masked fracture* of the articular surface of the inner malleolus, similar to fracture of the internal table of the skull. Two fragments, involving half the thickness of the malleolus and about one-half of its surface, had been torn off by the strain on the internal lateral ligament, but from the exterior the fracture could never have been detected. Two fissures also existed externally in the articular surfaces of the tibia and the fibula. The difficulty in the diagnosis and the serious results that might follow so severe an accident can readily be imagined in those cases where no further injury required amputation.

The PRESIDENT referred to a paper in the sixth volume of the St. Bartholomew's Hospital Reports, in which Mr. Callender applied the term "*sprain-fracture*" to cases of sprain in which a small shell of bone was torn off with the ligamentous and tendinous structures attached to it,—an accident which Mr. C. regarded as of more frequent occurrence than was generally supposed, and which would amply account for the unsatisfactory results sometimes attained in the treatment of sprains. If Dr. Keen had given a correct explanation of the mechanism by which the fracture of the lower surface of the malleolus was in the present instance produced, this might be regarded as a case of "sprain-fracture," in which, but for other complications, the lesion in question would probably not have been recognized.

*The man has since recovered.

BIOLOGICAL AND MICROSCOPICAL SECTION, ACADEMY OF NATURAL SCIENCES.

AT a meeting of the Section, held Monday, February 6, the Director, S. W. Mitchell, M.D., in the chair,

MR. WM. H. WALMSLEY exhibited slides showing the difference between the torn edge of our ordinary paper and that of the thick, strong paper used by the Chinese for the manufacture of clothing. Both appeared to be composed of cotton, but the foreign article bore the aspect of being made directly from the cotton fibres instead of from comminuted woven fabrics.

DR. J. H. MCQUILLEN directed attention to the remarkable specimen of hypertrophy of the roots of a left superior first molar tooth, measuring 2½ inches in length by 2⅝ inches in circumference, and weighing 12½ pennyweights, which he had exhibited at a previous meeting, and of which he had promised to make a microscopic examination. This he had done, and now submitted the results under the microscope, in three sections, taken from the same locality, one under the other.

As he had anticipated, the growth proved to be hypertrophy of the cementum.

The term exostosis, frequently applied to this growth, was open to exception on account of the fact that there are certain characteristic differences between cementum and bone, which any one at all familiar with the microscopical anatomy of these two structures will readily recognize.

With the view of making this difference apparent to those unacquainted with the subject, he had placed under one of the microscopes a section of bone. This specimen shows a transverse section of the Haversian canals, with the lacunæ and canaliculi arranged around them in concentric lamina. In the cementum, on the contrary, there is an entire absence of the Haversian canals, while the lacunæ and canaliculi are quite numerous.

The three sections from the hypertrophied structure differed from each other in a somewhat remarkable manner, when we take into consideration the fact that they had been in such close contiguity. In the first, an outer section, the lacunæ and canaliculi are presented in the usual arrangement of cementum. In the second section, taken immediately adjacent and below it, there are, in addition to the lacunæ and canaliculi, a number of irregular spaces; while in the third section the lacunæ are largely increased, and the canaliculi are more numerous and increased in length, running in a spiral direction analogous to dentinal tubuli in secondary dentine.

DR. F. W. LEWIS inquired what difference there was between these exostoses and epulis.

DR. JAMES TYSON replied that, microscopically, true epulis is a fibrous tissue, but that the term is often erroneously applied to the so-called myeloid tumors of Paget (the giant-celled sarcoma of Virchow) which have a similar situation,—that is, any of the structures about the jaw-bone, periosteum, and fibrous mucous membrane,—and which are cellular, or contain at most a small amount of fibrous tissue. Dr. T. also suggested that it seemed at least more natural to place cementum and bone in the same category, since the former differed from true osseous tissue only in the absence of the Haversian canals, the object of which was merely to contain the minute blood-vessels, which were here unnecessary on account of the close contiguity of the structure (cementum) to its vascular supply.

DR. MCQUILLEN stated that the various characteristics of enamel, cementum, and bone had induced Prof. Owen and others to draw the distinction which he had mentioned.

DR. TYSON showed an ingenious gastric canula, improved by being fitted with a cover and catch, for preventing the loss of gastric juice by the animal scratching it open.

REVIEWS AND BOOK NOTICES.

THE INTERMARRIAGE OF RELATIONS. From the Quarterly Journal of Psychological Medicine and Medical Jurisprudence, April, 1869.

PHYSICAL CULTURE IN AMHERST COLLEGE, 1869.

POPULATION: ITS LAW OF INCREASE. Read at the Meeting of the Western Social Science Association in Chicago, November 12, 1868.

THE PHYSIOLOGICAL LAWS OF HUMAN INCREASE. Extracted from the Transactions of the American Medical Association, 1870.

PHYSICAL DEGENERACY. Reprinted from the Journal of Psychological Medicine, October, 1870.

These pamphlets by Dr. Nathan Allen, of Lowell, Mass., except "Physical Culture in Amherst College," which is an historical account of the institution and exercises of the gymnasium, have for their chief object to substantiate what Dr. A. terms a Law of Increase of Population. We have read them carefully, and find they abound in good sense and sound conclusions.

We would ourselves prefer, however, to speak of the so-called "law" or "theory of increase," not as a law, but rather as a *condition*. That we may not be considered as representing unfairly, we will introduce the language in which he himself states it. Thus, in what may perhaps be considered as the representative paper,—that extracted from the Transactions of the American Medical Association,—on page 12, we have the following paragraph, which we present in its original form, though somewhat awkward in its expression: "Before proceeding further in the discussion, it may be well to re-state, in as few words as possible, what this law is. 'It is based upon a perfect development of all the organs in the human body, so that there shall be a perfect harmony in the performance of all their respective functions. It presupposes other conditions are favorable, such as the age, union, and adaptation of the married parties,—provided no laws of nature are violated or interfered with,—that there will uniformly be found, with such a standard of organization, not only the greatest number of children, but they will be found endowed with the highest amount of physical vigor, strength, and health.'" These are the terms of a condition and its results, not of a theory. His meaning, however, is easily reached, and, by a slight transposition of terms, it may be made the statement of a theory or proposition.

No thoughtful person can doubt for a moment that a perfect development of all the organs of the body and a harmony in the performance of all their functions are alone consistent with the largest number and most perfect development of offspring. Indeed, it would scarcely seem necessary to prove a proposition so patent. Dr. Allen has, however, thought proper to do so, in calling the attention of the profession to the subject; and he correctly deduces his arguments, directly and indirectly, from leading principles in physiology. Among these is the acknowledged principle that every organ, to secure its proper development and perform its appropriate functions, must have a due proportion of nutrition. Others are found in the laws of hereditary de-cent, negatively in the physiology of "sterility," "barrenness," etc., and in the fact that abnormal conditions of the body become less productive the farther we advance from a perfect standard.

Taking position against the intermarriage of relations, he justly bases it upon the physiological ground that defects of organization shared in by the blood of both parents are more apt to descend to offspring, and in an intensified degree; and though objecting on these grounds to the marriage of cousins, and, of course, of all nearer relatives, he does not deny that it is quite possible that a high degree of excellence in what he calls the "temperaments" in two cousins may be followed by offspring typical in health and development. On the other hand, marriage to a deceased wife's sister is properly said to be not only unobjectionable, but, for many reasons, desirable. It should, perhaps, be stated that Dr. A. does not use the word "temperament" to include a mixture or tempering of all qualities, physical and mental, but applies it more strictly to the different compartments of the body. Thus, the term *bilious or lymphatic temperament* is applied to the organs in the abdomen,—"the stomach, bowels, liver, and absorbents,"—as it were, geographically. In addition to the *bilious* or *lymphatic*, he makes also the *nervous*, the *sanguine*, and the *muscular* temperament. We confess to no partiality to such, or indeed to any, technical use of the term.

The evident diminution in the number of births, as shown by statistics, among native American women, he attributes partly to means taken to avoid conception and to intentional abortion, but principally to a deterioration in their organization, as the result of changes in education and domestic habits, in dress, and even occupation. We fear the former cause (avoidance of conception, etc.) has most to do with diminished fertility, but acknowledge also the force of the latter cause. Where is the American woman of modern times who will boldly inculcate in private circles, or, if she please, in public lectures, that "the strange and pernicious sentiment," as Dr. A. justly terms it, that there is some degradation attached to domestic labor, is false and pernicious, as it really is? Such a woman would alone be worthy to be the leader of fashion. A dissemination of these writings of Dr. Allen could result only in advantage to society.

CATALOGUE OF MEDICAL PORTRAITS.

We have received from Dr. W. H. Helm, of Sing Sing, N.Y., a number of specimen copies of photographs of eminent European medical men and savants.

Dr. H. deserves the thanks of the profession for the interest he has taken in having these prepared. Few gentlemen interested in the practice or literature of medicine are not anxious to add a familiarity with the faces of their favorite authors to that of the writings which they so highly value. From our ignorance of the originals, we are unable to speak of the accuracy of the likenesses, but are satisfied that every possible care has been taken to secure it.

The portraits, among many others, include those of Virchow, Niemeyer, Kölliker, Pettenkofer, Rokitansky, Hyrtl, Billroth, Brücke, Oppolzer, Milne-Edwards, Ricord, Trousseau, Velpeau, Duchenne, Larrey, Sappey, Sir Charles Lyell, Huxley, Sir William Fergusson, Todd, Toynbee, John Brown of Edinburgh, Sir James Y. Simpson, Christison, Robert Barnes, and Prof. Tyndall.

The photographs are for sale at the office of the *Medical and Surgical Reporter*, Philadelphia, by Lindsay & Blakiston, of Philadelphia, and by Wm. Wood & Co., of New York.

PHYSIOLOGICAL ACTION OF NITROUS OXIDE. By R. Amory, M.D. (Reprint from *N. Y. Medical Jour.*, August, 1870.) Jas. Campbell, Boston.

THE PHYSIOLOGICAL ACTION OF NITROUS OXIDE GAS. By J. J. Colton. S. S. White & Co., Philadelphia.

In the latter pamphlet, Mr. Colton advances and makes a feeble effort to prove the theory that nitrous oxide acts by producing increased oxidization of brain-tissue; while, in the former, Dr. Amory endeavors to demonstrate the very opposite of this,—namely, that the anæsthesia is owing to arrest of oxidization and capillary stasis. Evidently both of the gentlemen cannot hold the true view,—one at least must be wrong. The only proof at all worthy of consideration brought forward by Mr. Colton is stated upon page 8 of his pamphlet. It consists of three analyses of air, or three samples of expired breath. No. 1 was from a person who had not taken the gas; Nos. 2 and 3 were from one who was anæsthetized by it. It was found that Nos. 2 and 3 contained a very much larger percentage of carbonic acid. At a superficial glance this seems perhaps important testimony; but we assert that such experimentation amounts to nothing. The percentage of carbonic acid in exhaled air constantly varies, and there is, therefore, a very good chance that in a few experiments it might be found greater in the air expired during anæsthesia, even if the anæsthetic really lessened the amount of carbonic acid given off. Moreover, percentage gives in this case no measure of absolute quantity, as it is very possible that a much less bulk of air is expired in a minute during anæsthesia than during the same period of active life. On the other hand, Dr.

Amory's experiments bear every mark of having been carefully and ably conducted,—are quite to the point, and sufficiently repeated to be authoritative; so that we must consider it fairly established that oxidization is checked during nitrous-oxide anæsthesia.

Dr. Amory, having shown that oxidization is checked, and rendered it probable that a certain amount of capillary stasis is produced, during anæsthesia from the gas, reasons that the former are the causes of the latter. Here, we think, he falls into the error of some of our modern reasoners on sleep. It is at least very possible that the anæsthesia is the cause rather than the result of the stasis. Anæsthesia and sleep mean cessation of function, and lowering of functional activity, of course, produces a partial arrest of circulation and oxidization. Some unpublished experiments that we have made prove that it is possible to arrest oxidization sufficiently to lower animal temperature eight or ten degrees in health without producing anæsthesia at all. We must therefore demur from accepting for the present Dr. Amory's conclusions, though we give high praise for the careful and ingenious experimentation.

TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION. Vol. xxi., pp. 612. Philadelphia, Printer, 1870.

The first part of this volume contains the minutes of the twenty-first annual meeting of the association, which was held at Washington, May 3, 1870. Many new questions, arising from the social and political changes of the past few years, presented themselves for settlement, and it was feared that the meeting might be of a less harmonious character than usual. Fortunately, however, the discussion of most of these questions was avoided, and the feeling of good fellowship which should prevail at the sessions of a scientific association was not materially disturbed. Of the different sections, that of anatomy and surgery appears to have been the most active; and it is only necessary to mention that Drs. Gross, Gurdon Buck, and Sayre read papers, to demonstrate that the proceedings must have been of a very interesting nature. The papers of these gentlemen, as well as those of some others, are of decided value, and it is to be deplored that these "Transactions" have so limited a circulation. Dr. J. G. Richardson read a paper "On the Cellular Structure of the Red Blood Corpuscle" before the Section on Medical Jurisprudence, Hygiene, and Physiology, which was noticed at length in No. 10 of this Journal. The report of the committee appointed to memorialize Congress on the cultivation of the cinchona-tree in the United States, and the report on the propriety of establishing a cinchona-plantation in the United States, by Thomas Antisell, M.D., both satisfactorily prove that certain portions of the State of California are admirably adapted for the cultivation of the cinchona-tree. It is rather a curious fact, although one which we believe is also true of some other drugs, that the bark of the cultivated tree yields in many cases a larger percentage of quinia than that of the uncultivated. The Committee on Prize Essays awarded the prize to Dr. Benjamin Howard, of New York, late Professor of Clinical and Operative Surgery, Long Island Medical College, for "An Essay on the Treatment of Aneurism." The treatment which he recommends is that which seemed to him to be indicated by the results of numerous experiments made upon sheep, and consists in the application of a silver ligature to the artery above the aneurism, but the ligature is only to be drawn sufficiently tightly to diminish the arterial current, not to arrest it entirely. He believes he has demonstrated that, by *slowing* the circulation in the aneurism, fibrin is gradually deposited upon the sides of the sac, and in this way a much firmer and more permanent clot is formed than when the ligature is applied in the more usual way.

BOOKS AND PAMPHLETS RECEIVED.

Catalogue of the University at Lewisburg.

Third Annual Report of the St. Mary's Hospital.

The Health and Wealth of the City of Wheeling; also, General Remarks on the Natural Resources of West Virginia. By James E. Reeves, M.D. Second edition, enlarged and illustrated. Pamphlet, 8vo, pp. 157. Baltimore, Law Book and Job Office, 1871.

New York State Inebriate Asylum, Binghamton, N.Y. Annual Report of the Superintendent and Physician for the Year 1870. Pamphlet, 8vo, pp. 39. Albany, Van Benthuysen Printing-House, 1871.

Prostitution and its Sanitary Management. By Edmund Andrews, M.D. Pamphlet, 8vo, pp. 33. From the *Chicago Medical Examiner*, February, 1871.

Address delivered before the American Academy of Dental Science at their Annual Meeting. By J. H. Foster, M.D. Boston, Rockwell & Churchill, 1871.

Catarrhal and Croupous Inflammation of Mucous Membranes. By Samuel G. Armor, M.D. Pamphlet, 8vo, pp. 12. Reprinted from the *New York Med. Journal*, February, 1871.

On Dactylitis Syphilitica, with Observations on Syphilitic Lesions of the Joints. By R. W. Taylor, M.D. Pamphlet, 8vo, pp. 30. Reprinted from the *American Journal of Syphilography and Dermatology* for January, 1871.

Second Annual Report of the State Board of Health of Massachusetts, January, 1871. Boston, Wright & Porter, 1871.

Code of Health of the School of Salernum. Translated into English Verse, with an Introduction, Notes, and Appendix. By John Ordronaux, LL.D., M.D., etc. 12mo, pp. 167. Philadelphia, J. B. Lippincott & Co., 1871.

GLEANINGS FROM OUR EXCHANGES.

CHLORALUM.—Dr. Edward Ballard, Medical Officer of Health for Islington (*Chem. News*, January 20, 1871), protests against the assertion made by Professor Gamgee, that carbolic acid, owing to its smell, is less used than it would be if without odor, and recommends caution in accepting chloralum as a disinfectant. In his own experience he has found carbolic acid "a most efficient agent for destroying contagia," and that its odor is not offensive unless contaminated with sulphide of ammonium.

He objects to the inference that because chloralum is *antiseptic* it is also a *disinfectant*, and against Prof. Gamgee's assuming its disinfecting power from its chemical properties as an antiseptic. A disinfectant, he says, is an agent which will destroy the vitality—the power of growth and reproduction—of those minute particles of matter which, given off by the sick, are capable of producing a like disease in the healthy. He thinks that to prove that any substance is a disinfectant, it should be shown, by experiment by an accomplished microscopist, to have the power of destroying the vital manifestations of those minute amœbiform particles of matter which constitute the simplest form of living things, and, by repeated experiment upon a large scale, that the use of the reputed disinfectant actually has resulted in the arrest of the spread of contagious disease. He is of opinion that Prof. Gamgee has advanced nothing to satisfy any one that chloralum, used in any way, is capable of destroying the peculiar manifestations of a morbid contagion, and thinks that the reason for its rapid strides into the favor of medical men (who are apt to take up new disinfectants in a "wild manner") may be found in that freedom from odor which Prof. Gamgee considers the basis on which the reputation of Condy's fluids rests.

Dr. Ballard gives as a reason for not having tried chloralum himself, though smallpox and scarlet fever are raging in his district, that he dare not assume the responsibility of its use until *primâ facie* proof at least is afforded him that by using it he will be using that which is capable of destroying "disease-germs."

In the same journal (January 27, 1871), Prof. Gamgee expresses his high appreciation of the value of the suggestions made by Dr. Ballard with regard to means for investigating and proving the mode of action of substances offered as disinfectants, but thinks that little would be learned experimentally

about any of them if all persons who, like Dr. Ballard, have abundant opportunity of testing the matter, waited instead of acting.

He states that chloralum shrivels, arrests the movements of, and kills the amœbiform bodies above referred to,—and does more. It destroys many of the lower forms of parasitic life, whether animal or vegetable. He is convinced that every good antiseptic is really a destroyer of disease-germs. He adds that the properties of chloralum are almost identical with the active antiseptic and disinfectant properties of hydrochloric acid.

The Wandering Liver in its Correlative Relations to Pregnancy, Birth, and Childbed (*Meissner, Archiv. für Gynaecologie*, vol. i. p. 188).—The author was summoned in April, 1869, to a patient who had suffered for a long time with symptoms of abdominal disturbance. She was thirty years old, and stated that after the birth of her last child, in January, 1869, the abdomen had remained enlarged, while she complained of an uncomfortable feeling of pressure, weight, and fulness on the right side, and an inability to stoop forward, as she had been in the habit of doing before confinement, in the pursuit of her occupation. The tumor, owing to its peculiar shape, was at once recognized as the prolapsed liver, and reposition was easily effected. A suitable mode of fastening the undergarments, and the use of an elastic abdominal bandage, supported the organ in its normal position so satisfactorily that the tumor at evening was never found lower than the inferior border of the ribs on the right side.

Cantani, of Padua, described a similar case in 1866, which he subjected to a critical examination, and at the same time offered a suggestion as regards its etiology, to which Meissner cannot give his assent. Cantani's case also followed pregnancy, and he thought that the enlarged uterus, by pushing the liver backwards, had excited some slight inflammation in the peritoneal folds, which had thereby become soft and distensible, so that they had subsequently yielded to the weight of the liver after the uterus had contracted.

This explanation M. rejects, on these grounds:

1. Notwithstanding the frequency of pregnancy, this condition is exceedingly rare, and has, in fact, never been the subject of post-mortem examination.

2. The inflammation of serous membranes does not result in softening and distensibility, but in the production of adhesions and pseudo-membranes.

3. According to the anatomical relation of the parts, the liver would not be pushed backwards, but forwards, by the development of the uterus.

4. Such a pressure on the liver would inevitably produce serious symptoms; while in point of fact the general health of the patients in both cases was scarcely impaired.

Meissner supposes that this unusual mobility of the liver is produced by a "mesohepar,"—viz., a fold of the peritoneum which encircles to a great extent the liver, again uniting at the diaphragm,—but that this development of the peritoneal covering is not due to a pathological process, but to a congenital excess of development. This, then, explains satisfactorily all the symptoms.

Function of the Prostate Gland.—Dr. Kraus, editor of the Vienna *Medical Times*, contributed to the *Med. Times and Gazette*, February 11, 1871, a preliminary communication in regard to the seminal fluid and the influence of the prostatic secretion on its physical qualities. The conclusions arrived at are—1. The seminal fluid, as long as it remains within the testes, vesicles, and other seminal passages, is colorless and scentless, being in appearance exactly like fresh honey while deposited in the comb; and in its reactions it is neutral. 2. Only when it has quitted the passages and arrived in the urethra does it acquire its white color and its peculiar faint smell. 3. During its passage through the prostatic portion of the urethra, the prostate empties out its fluid, colors the semen white, and confers upon it the faculty of coagulating when exposed to the air (alkaline reaction). Semen taken from the seminal vesicles does not coagulate, but remains clear, colorless, and scentless. 4. The spermatozoids, in the absence of the prostatic fluid, cannot live in the mucous membrane of the uterus of mammalia; but with its aid they may live for a long time in the uterine mucus, often more than thirty-six hours. From his experiments, which are not yet published, he draws the conclusion that the prostatic fluid exercises an unlimited influence on the viability of the spermatozoids, sustaining it when endangered by the mucus secreted by the mucous membrane of the uterus.

The Production of Hemorrhage, Anæmia, etc. in the Lungs by Injuries to the Base of the Brain.—Dr. Brown-Séquard contributes to the London *Lancet*, January 7, 1871, some experimental researches on guinea-pigs, rabbits, and cats, to show how frequently the lungs are altered consecutively to a lesion of the brain. He states that in almost all cases of injuries by crushing or section of the pons varolii, ecchymoses were found in the lungs; sometimes the whole lung was crowded with effused blood, and real pulmonary apoplexy existed. Injuries to other portions of the brain were attended with similar results, but they rarely followed injuries to the medulla oblongata and spinal cord, although the nerve-fibres going from the pons varolii to the lung pass through both of these divisions of the nervous system. Experiments show that it is not through the par vagum, but the sympathetic, especially by its spinal roots, that the peculiar influence of the irritated pons varolii exerts itself in producing pulmonary hemorrhage. The condition of the lung, as regards distention or collapse of the air-cells, does not materially change the effect. A lesion in one of the lateral halves of the pons produces generally a much greater effect on the lung of the opposite side. Anæmia may also be produced after similar injuries of the base of the brain, but especially of the pons varolii, some parts of the lung seeming to be absolutely deprived of blood. Œdema appears principally after injury of the medulla oblongata, the lung presenting several minute grayish spots containing serum, and the minute blood-vessels being filled with the white corpuscles of blood, and free from red corpuscles. This change in the contents of the pulmonary capillaries is immediate. Emphysema, Dr. Brown-Séquard declares, can appear when not a single respiratory movement takes place, after an irritation of the base of the brain, either by crushing or cutting. This differs from the views of other observers on the mode of production of emphysema. He also states that of 188 cases of organic disease of the brain recorded in the work of Calmeil, there was a morbid state of the lungs in more than 60 cases. He concludes that many patients attacked with brain-diseases die from disease of the lungs caused by that of the central organ of the nervous system.

Removal of a Horse-Shoe Pessary from the Bladder.—Dr. Levin J. Woolen (*American Practitioner*, Dec. 1870, p. 335) reports a case in which an open horse-shoe pessary was introduced by a physician into the bladder. In order to remove it, he was obliged to divide the urethra from a point half an inch behind the meatus, extending the incision up to the neck of the bladder. The pessary was readily removed, but the wound in the bladder failed to close, despite two subsequent operations. The above is the fifth recorded case of introduction of the open-lever pessary into the bladder,—Dr. H. R. Storer having reported two, Drs. T. O. Edwards and Byford each one.

Effect of Inhalation of Oxygen upon the Pulse.—Dr. Andrew H. Smith recently read a paper on this subject before the N. Y. Medical Journal Association (*Medical Record*, Jan. 2, 1871, p. 481), giving interesting results of experiments with oxygen, eight gallons of which, on the average, were administered to each person. The conclusion arrived at was that this gas is an arterial, or, more correctly, a cardiac, sedative; the first step being a change in the blood, which facilitates its circulation and thus lessens the labor imposed upon the heart. In 102 observations made upon 11 phthisical patients, the pulse was retarded an average of 10 beats per minute in 72 of these, was unchanged in frequency in 18, and slightly accelerated in 12. In 12 healthy individuals selected for experiment, in 8 there was an average fall of 9 beats, while in the other 4 there was no change. The sphygmograph indicated a change also in the character of the beat,—the volume of the pulse being increased, probably on account of a greater time being afforded, by the retardation of the pulse, for the ventricles to become filled with blood, and an increased amount of blood being thus thrown into the arteries. An

antagonistic effect of the gas upon the volume of the pulse is found in the fact that it acts upon the blood in such a way as to facilitate its flow through the capillaries, and, as one or the other effect predominates, the pulse becomes increased or diminished in size, or, if they are exactly apportioned to each other, no change of volume results. Under the use of oxygen, dicrotism of the pulse was usually lessened, owing to the diminution of capillary resistance, and irregularity of the beat was generally overcome, at least temporarily.

TUBERCULOSIS AND CANCER (*The Lancet*, July 16, 1870).—The correlation of these diseases has been, for some time, the object of anxious thought on the part of medical men. Facts have so distinctly obtruded themselves on the attention of observers, that the mere collection of cases will go far to establish a relationship between tuberculosis and cancer. Among the most intelligent physicians who have clinically studied the subject is Dr. Burdell, of Vierzon, in France. On the 17th of May last, he read a paper before the Academy of Medicine, of Paris, in which it is stated that the diseases have been observed in more than one hundred families, both by the author and his father, to whose practice he has succeeded. It was found that parents affected with cancer had children who presented the tubercular diathesis. Dr. Burdell's memoir is remarkable, not only for the care with which the statistics were collected, but also for the sober manner in which theorizing is attempted. The facts speak so forcibly, that the profession cannot fail to be struck by them. It would be well if one of our societies would, next winter, appoint a committee to receive reports from medical men, all over the country, respecting their experience on this important subject.

OSSIFIC DEPOSIT IN THE EYEBALL.—Mr. Spencer Watson exhibited before the Pathological Society of London (*Med. Times and Gaz.*, Dec. 31, 1870) two specimens of ossific deposit in the eyeball. One occurred in the eye of a man, aged 30, whose eye had been destroyed long before, but had not been removed. Sympathetic ophthalmia made its appearance, and the diseased eyeball was then taken away; there was a bony deposit in the choroid; the lens was calcareous, and there was a deposit in the cornea. In the second, removed for the same cause, there was a slight deposit in the choroid, round the entrance of the optic nerve. Dr. Careton, of Norwich, Conn., reports (*Proceedings of Amer. Med. Association* for 1870) the case of a man who for six years had suffered from an obscure affection of the right eye, with loss of sight. On account of sympathetic trouble in the other organ, the right eye was removed, and there was found between the choroid and retina a large, irregular, cup-shaped formation of bone, in which there was an opening hardly large enough for the passage of the optic nerve. The capsule of the lens was also ossified.

MISCELLANY.

RESIGNATION AND APPOINTMENT.—Prof. Alfred Stillé having resigned the position of Attending-Physician to the St. Joseph's Hospital, Dr. James Tyson was chosen, March 21, to succeed him. Drs. J. G. Richardson and A. H. Fish were also candidates for the position.

ANNUAL COMMENCEMENTS.—The two great medical schools of this city held their annual commencements,—the Jefferson College on March 13, with 127 graduates, the University of Pennsylvania on the 14th, with 114.

The alumni associations, formed last year, held their annual meetings; besides which each of them celebrated the occasion by an entertainment,—that of the University being held in the hall of the Department of Arts, and that of the Jefferson College at Augustin's, in Walnut Street.

The officers of the Alumni Association of the Medical Department of the University are:

President, Dr. George B. Wood; Vice-Presidents, Drs. J. Carson, S. H. Dickson, G. W. Norris, and Wilmer Worthington; Corresponding Secretary, Dr. C. T. Hunter; Recording Secretary, Dr. H. Y. Evans; Treasurer, Prof. R. E. Rogers.

The officers of the Alumni Association of the Jefferson College are:

President, Dr. S. D. Gross; Vice-Presidents, Drs. N. L. Hatfield, Washington L. Atlee, Ellwood Wilson, and Addinell Hewson; Recording Secretary, Dr. J. E. Mears; Corresponding Secretary, Dr. R. J. Dunglison; Treasurer, Prof. B. Howard Rand.

THE ALUMNI ASSOCIATION OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.—We have been requested to call attention to the following:

"The Executive Committee of the Alumni Association of the Medical Department of the University of the City of New York purpose the publication, at the earliest possible date, of a complete catalogue of the graduates from that institution since its foundation. The records of the Faculty having been destroyed in the burning of the college building some years ago, this project is one that should be seconded by every one of the alumni, of whom between two and three thousand are scattered throughout the United States. It is earnestly requested that each of these will without delay forward for enrolment his full name and post-office address, with his professional history, including date of graduation, posts of honor and trust held, etc., and also any information which he may possess concerning former class-mates who have since died or retired from practice. Communications should be addressed to the Secretary, Charles Inslee Pardee, M.D., 72 West 35th St., New York."

UNIVERSITY HOSPITAL.—At the recent annual meeting of the Alumni Association of the Medical Department of the University of Pennsylvania, a resolution was brought forward by Dr. W. F. Norris, and received with marked favor, bespeaking the interest of the members for the project of a hospital, to be connected with the institution; the object being, of course, to facilitate and extend the clinical instruction afforded the classes attending the school.

It would be difficult to overestimate the advantage which would accrue from the efficient carrying out of this plan, and we sincerely hope that the Trustees will find means to accomplish its fulfilment.

WISE LEGISLATION.—A bill was recently passed by the New York Legislature providing for the appointment of a paid board, consisting of six members,—viz., two skilled pharmaceutists, two skilled druggists, and two regular physicians,—for the examination of all persons now employed or hereafter to be employed as clerks by persons engaged in preparing, putting up, and dispensing medicines in the city of New York. Unless licensed by the board, it is unlawful for any one to put up prescriptions.

The punishment for employing unlicensed clerks is a fine of not less than $500, or imprisonment for six months, or both, at the discretion of the court.

PRESBYTERIAN HOSPITAL.—The religious denomination of Presbyterians in Philadelphia are arranging for the erection of a hospital. Patients will be admitted as in other sectarian institutions of the kind. A lot of ground situated in West Philadelphia has been given as a site, and we believe funds are being collected with a view to the early commencement of the work.

THE STRANGERS' HOSPITAL.—This institution, lately established in New York by the generosity of Mr. John H. Keyser, is situated at the corner of Tenth Street and Avenue D. It

will contain one hundred and eighty beds, of which more than one-half will be free. It is intended as a substitute for the New York City Hospital, recently torn down. Upon the list of officers we notice the names of several of the staff of the old institution.

THE TITLE OF "DOCTOR."—The New York *Medical Gazette* gives the following, taken from one of its exchanges:

"The title of 'doctor' was invented in the twelfth century. Irnerius, a learned professor of law at the University of Bologna, induced the Emperor Lothaire II., whose chancellor he was, to create the title, and he himself was the first recipient of it. He was made doctor of laws by that university. Subsequently the title was borrowed by the faculty of theology, and first conferred by the University of Paris on Peter Lombard. William Gordenio was the first person upon whom the title of doctor of medicine was bestowed; he received it from the College of Asti, in 1329."

NATURE'S ECONOMY.—Prof. Huxley, in a recent lecture, gives the following curious and striking view of a geological process:

"Let us suppose that one of the stupid, salamander-like labyrinthodonts, which pottered, with much belly and little leg, like Falstaff in his old age, among the coal forests, could have had thinking-power enough in his small brain to reflect on the showers of spores which kept on falling through years and centuries, of which perhaps not one in ten million fulfilled its apparent purpose and reproduced the organism which gave it birth: surely he might have been excused for moralizing upon the thoughtless and wanton extravagance which Nature displayed in her operations. But we have the advantage over our shovel-headed predecessor,—or possibly ancestor,—and can perceive that a certain vein of thrift runs through this apparent prodigality. Nature is never in a hurry, and seems to have had always before her eyes the adage, 'Keep a thing long enough, and you will find a use for it.' She has kept her beds of coal many millions of years without being able to find much use for them; she has sent them down beneath the sea, and the sea-beasts could make nothing of them; she has raised them up into dry land, and laid the black veins bare, and still, for ages and ages, there was no living thing on the face of the earth that could see any sort of value in them; and it was only the other day, so to speak, that she turned a new creature out of her workshop, who, by degrees, acquired sufficient wits to make a fire, and then to discover that the black rock would burn."

After alluding to the value of coal to the arts as a fuel, he goes on:

"All this abundant wealth of money and of vivid life is Nature's interest upon her investment in club-mosses and the like, so long ago. But what becomes of the coal which is burnt in yielding this interest? Heat comes out of it; light comes out of it; and if we could gather together all that goes up the chimney and all that remains in the grate of a thoroughly-burnt coal-fire, we should find ourselves in possession of a quantity of carbonic acid, water, ammonia, and mineral matters exactly equal in weight to the coal. But these are the very matters with which Nature supplied the club-mosses which made the coal. She is paid back principal and interest at the same time; and she straightway invests the carbonic acid, the water, and the ammonia in new forms of life, feeding with them the plants that now live. Thrifty Nature! Surely no prodigal, but most notable of housekeepers!"

THE INTERNATIONAL MEDICAL CONGRESS.—From the following item, which we clip from the *British Medical Journal* of February 11, it would seem as if the German element would rather predominate in this body:

"The committee charged with the arrangements for the International Medical Congress, which it is proposed to hold in Vienna in the course of the present year, has made the following nominations of officers, etc.: President, Prof. Rokitansky; Vice-Presidents, Profs. Duchek and Sigmund; Secretaries, Drs. Benedikt and Schnitzler; other members of committee, Drs. Oppolzer, Kraus, Pichler, Scott, Wertheim, and Wittelshöfer."

MORTALITY OF PHILADELPHIA.—The following statements are condensed from the returns made to the Health Office:

Interments for the week ending March 11, 1871 310

Adults, 156
Minors, 154

The causes of death were reported as follows:

Diseases of Respiratory Apparatus (Consumption, 58)	103
Diseases of Brain and Nervous System	48
Debility, 9; Marasmus, 6; Old Age, 13; Inanition, 9	37
Zymotic Diseases	30
Diseases of Abdominal Organs	31
Diseases of Organs of Circulation	16
Stillborn	17
Casualties, 4; Suicide, 1	5
Cancer, 5; Syphilis, 1	6
Unclassifiable	17
	310

Interments for the week ending March 18, 1871 238

Adults, 135
Minors, 103

The causes of death were reported as follows:

Diseases of Respiratory Apparatus (Consumption, 48)	84
Diseases of Brain and Nervous System	29
Debility, 15; Marasmus, 8; Old Age, 9; Inanition, 3	35
Zymotic Diseases	22
Diseases of Abdominal Organs	22
Diseases of Organs of Circulation	11
Stillborn	12
Casualties, 3; Suicide, 2; Murder, 1	6
Cancer, 3; Scrofula, 2	5
Unclassifiable, 10; Unknown, 2	12
	238

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MARCH 5, 1871, TO MARCH 18, 1871, INCLUSIVE.

MILLS, MADISON, SURGEON.—By S. O. 103, War Department, A.G.O., March 14, 1871, to report to the Commanding General Department of the East for assignment to duty.

HAMMOND, J. F., SURGEON.—By S. O. 47, Headquarters Department of Texas, March 6, 1871, assigned to duty as Post-Surgeon at Fort Richardson, Texas.

SMITH, J. R., SURGEON.—By S. O. 107, War Department, A. G. O., March 17, 1871, relieved at Jefferson Barracks, Mo., and assigned to duty as Post-Surgeon at Fort Wayne, Mich.

IRWIN, B. J. D., SURGEON.—By S. O. 107, War Department, A. G. O., March 17, 1871, upon being relieved at Fort Wayne, Mich., to report in person to the Commanding Officer Department of the Missouri for assignment to duty.

WEEDS, J. F., SURGEON.—By S. O. 45, Headquarters Department of the South, March 4, 1871, to accompany detachment of recruits from Nashville, Tenn., to Indianola, Texas, and after completion of this duty to return to his station, Nashville, Tenn.

HARTSUFF, A., ASSISTANT-SURGEON.—By S. O. 29, Headquarters Department of the Columbia, February 25, 1871, upon being relieved at Sitka, Alaska Territory, to report in person at these Headquarters for assignment.

PHILLIPS, H. J., ASSISTANT-SURGEON.—By S. O. 29, Headquarters Department of the Columbia, February 25, 1871, assigned to duty at Sitka, Alaska Territory.

O'REILLY, R. M., ASSISTANT-SURGEON.—By S. O. 40, Headquarters Department of the Platte, assigned to duty as Post-Surgeon at Fort Laramie, Wyoming Territory, upon being relieved at Sidney Barracks, Nebraska.

HEIZMANN, C. L., ASSISTANT-SURGEON.—By S. O. 40, Headquarters Department of the Platte, March 10, 1871, to accompany Fourth Infantry from Fort Laramie, Wyoming Territory, to Sidney Barracks, Nebraska, and, on arrival, report for duty as Post-Surgeon at that post.